



25TH ANNUAL SOUTHERN ASSOCIATION FOR INFORMATION SYSTEMS CONFERENCE

Hilton Head Island, South Carolina, USA

March 23 – 25 , 2023



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Welcome from the President



Welcome to Hilton Head, SC, and the 25th Annual SAIS Conference! We hope you are as excited as we are about SAIS 2023! While I look forward to meeting you, I hope you take some time to enjoy this beautiful resort and share ideas as researchers, academics, and practitioners.

I want to give a special thank you to everyone involved in making this year's conference a success. The board members, paper authors, reviewers, presenters, and participants have all contributed to the smooth preparation of SAIS 2023. I encourage everyone to get involved with the SAIS conference. Consider joining the Board or contributing some ideas by attending the SAIS business meeting on the last day of the conference.

Please take a moment to meet and thank our SAIS Board members whose efforts and support make this a successful event. The conference could not be held without the significant organizing effort of this year's Conference and Program Chairs, Christopher Kreider and Jignya Patel, Program Chair. SAIS and this conference do not work without the efforts of each board member listed at the beginning of this program; thank you for your work and ideas. Most importantly, I want to thank you for your contributions and attendance; SAIS 2023 would not exist without you.

It has been an honor to serve as President, and I trust you will have an enjoyable conference experience. Enjoy your time in Hilton Head. When you are not engaged in one of the conference sessions, explore the city, learn about your colleagues' research, and engage in exciting conversations. Enjoy your time at SAIS 2023, and hopefully, we will see you all again at SAIS 2024 - our 26th Annual Conference in Gulf Shores, Alabama!

A handwritten signature in black ink, appearing to read 'Bernie Farkas'.

Bernie Farkas
University of Tampa

Welcome from the Conference Chair



We are excited and humbled to join you for the 25th meeting of the Southern Association for Information Systems in Hilton Head, SC! When planning this celebration, we voted on a favorite place from the last few years, and the Sonesta was the clear winner! While I look forward to meeting you in our conference sessions, I hope you will find time to enjoy Hilton Head Island, the Beach and the Sonesta Resort!

The theme for our conference is “The Foundations and Future of IS”. Through this lens, we hope to mindfully reflect on the IS foundation that has guided us for the last 25 years, and then to apply our expertise to look forward to where we will go over the next 25 years. Our Friday Keynote speaker Dr. Mary Granger, Professor Emeritus from George Washington University and former VP of education for AIS, will present on the foundations of IS. Our Saturday keynote speaker Dr. Craig Van Slyke, the Mike McCallister Eminent Scholar Chair in Information Systems at Louisiana Tech University, founding editor of the JSAIS, and SAIS past president will present on the future of IS. Nestled in between, Friday night - we hope you will join us for a reception in the beautiful outdoor space at the Sonesta, and help us build scholarship through community.

I would like to recognize and thank Drs. Bernie Farkas, Jignya Patel, and Sue Feldman who have been core SAIS colleagues as we have navigated the uncertainty moving into the post COVID era. Their hard work has made not only today possible, but has already started preparing for 2024. Please take a moment to meet and thank our SAIS Board members whose efforts and support make this a successful event. The conference could not be held without the significant organizing effort of Dr. Jignya Patel, our Program Chair, this year. Equally valued is Dr. Bernie Farkas, our current SAIS president, who has guided us throughout the conference planning process. Finally, I would like to thank our conference sponsors – Prospect Press and the National Cyberrange. Most importantly, I want to thank you for your contributions and attendance; SAIS 2023 would not exist without you. It has been an honor to serve as your Conference Chair, and I trust that you will have an enjoyable conference experience.

A handwritten signature in black ink, appearing to read 'Chris Kreider'.

Chris Kreider
Christopher Newport University

Welcome from the Program Chair



Hello and welcome! We are super excited you could join us for the 25th anniversary of the Southern Association for Information Systems. We have worked hard to line up a series of original, novel, and interesting presentations spanning various topics core to the IS discipline over a period of two days. In addition, we have scheduled two keynote speeches that will reflect on the history and future of IS.

First things first! I want to take this opportunity to express my sincerest gratitude to our sponsors – Prospect Press and the National Cyberrange. We have a deep relationship that spans several years and I look forward to a continued partnership going forward. Next, the conference would not even exist without the authors who submitted their valued work to SAIS. We are very honored and humbled that you selected SAIS as your conference of choice. Lastly, the success of the conference is attributed to the entire SAIS team who worked tirelessly to organize the technical and social arrangements of the conference. I particularly would like to express my sincerest gratitude to Bernie Farkas, Chris Kreider, and Sue Feldman for their continued leadership, guidance, and support.

I hope that your experience at the 25th SAIS is both intellectually and emotionally enriching. Don't forget to join us for the social event on Friday, March 24th at 6.30 pm in the lawn. I look forward to meeting you personally at the conference!

A handwritten signature in black ink that reads "Jignya".

Jignya Patel
Florida Institute of Technology

Keynote Speakers

Craig Van Slyke, PhD

***Mike McCallister Eminent Scholar Chair in Information Systems
Louisiana Tech University***



Craig Van Slyke is the Mike McCallister Eminent Scholar Chair in Information Systems at Louisiana Tech University. Prior to joining Tech, he was professor and dean of the W.A. Franke College of Business at Northern Arizona University, and before that, professor, associate dean and department chair at Saint Louis University. He has also held faculty positions at the University of Central Florida, and Ohio University. He holds a Ph.D. in Information Systems from the University of South Florida. His current research focuses on behavioral aspects of information technology, cyber security, and privacy. Dr. Van Slyke has published over forty articles in respected academic journals including Communications of the AIS, Decision Sciences, Communications of the ACM, European Journal of Information Systems, The DATA BASE for Advances in Information Systems, and Journal of the Association for Information Systems.

The fourth edition of his fourth co-authored textbook, Information Systems in Business: An Experiential Approach, was published in 2021.

Mary Granger, PhD

***Professor Emerita of Information Systems & Technology Management
George Washington University***



Dr. Mary Granger is Professor Emeritus of Information Systems at George Washington University. She was director of the undergraduate MIS and the graduate Masters of Science in Information Systems Technology. Her research focuses on IS curriculum and pedagogy, usability of technology and innovation using technology. She was a co-chair of the education track at AMCIS and co-chair for the ICIS education track and is currently an associate editor for CAIS. She was also AIS Vice-President for Education and served on the AIS board. She was given the AIS Outstanding Contribution to IS Education award in 2013 and has several best paper awards. Mary is an ABET program evaluator, and

is currently a commissioner for ABET. She taught internationally: Warsaw School of Economics (Fulbright scholar), Poland; Corvinus University, Budapest, Hungary; Thammasat University, Bangkok, Thailand and Dongbei University of Finance and Economics, Dalian, China. As a Fulbright specialist, Mary worked with the Institute of Finance and Economics, Ulaanbaatar to establish the first undergraduate program in Information Systems in Mongolia.

Manuscript Reviewers

We would like to thank each of the volunteers below for reviewing the manuscripts that were submitted to the conference. The conference could not be a success without their generosity.

Eleanor Afful

Arnav Aghav

Adam Alami

Maud Ashong Elliot

Cheuk Hang Au

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João Barata

John Batchelor

Utpal Bhattacharya

Son Bui

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Amitava Dutta

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Sadaf Salehi Qeshmi

Pooja Sarin

Yann Savoye

Ilele sha

Abhishek Shah

Shweta Shah

David Sikolia

James Smith

Christian Sonnenberg

Joseph Squillace

Marcellus Taylor

Xin Tian

Karthikeyan Umapathy

Craig Van Slyke

Eric Villafranca

Brian Walkup

Judy Wynekoop

Anna Zaitsev

Canlin Zhang

Liang Zhao

Shimi Zhou

Conference Schedule

Thurs, March 23	ACTIVITY	LOCATION
6:30-8:30	SAIS Board Meeting (Closed to Board Members and Invitees)	Sea Crest
Fri, March 24	ACTIVITY	LOCATION
7:00-5:00	Registration	Lobby
7:30-8:30	Breakfast	Prefunction ABC
8:30-9:30	Welcome and Keynote Address	Salon ABC
9:30-9:45	Break	Prefunction ABC
9:45-11:00	Session 1A Analysis, Design and Development 1B IS in Society 1C Security and Privacy	Salon ABC Dorchester Charleston
11:00-11:15	Coffee Break	Prefunction ABC
11:15-12:30	Session 2A IS Use 2B Education 2C Data and Analytics	Salon ABC Dorchester Charleston
12:30-1:45	Lunch & Break 15 Minute Overview – Prospect Press	Prefunction ABC
1:45-3:00	Session 3A Security and Privacy 3B Enterprise IS	Salon ABC Dorchester
3:00-3:15	Coffee Break	Prefunction ABC
3:15-4:30	Session 4A Future of IS 4B IS in Society 4C Governance, Project Mgt., & Strategy	Salon ABC Dorchester Charleston
5:00-6:30	Reception Social Event Beverages and hors d'oeuvres	Lawn Savannah (Prefunction <i>in case of rain</i>)
Sat, March 25	ACTIVITY	LOCATION
7:30-10:00	Registration	Lobby
7:30-8:30	Breakfast	Prefunction ABC
8:30-9:30	Keynote Address	Salon ABC
9:30-9:45	Coffee Break	Prefunction ABC
9:45-11:00	Session 5A Security & Privacy 5B IS in Society	Salon ABC Dorchester
11:00-11:15	Coffee Break	Prefunction ABC
11:15-12:30	Session 6A Education 6B Security & Privacy	Salon ABC Dorchester
12:30-1:45	Awards Luncheon	Savannah
1:45-3:00	SAIS Business Meeting SAIS 2024 Conference Planning Meeting	Salon ABC Salon ABC

Conference Map

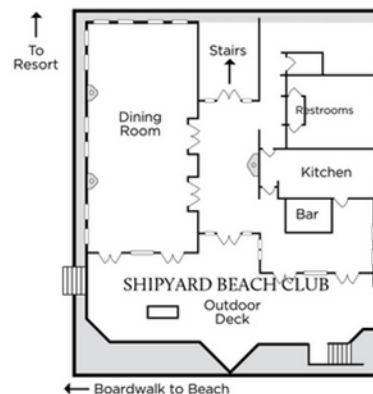
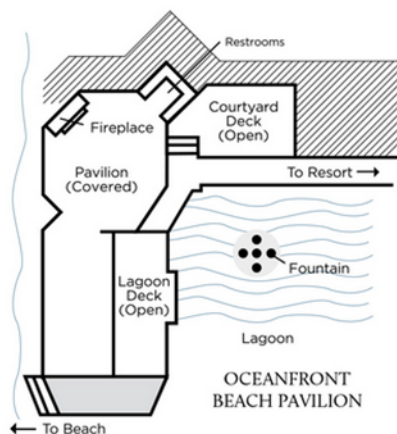
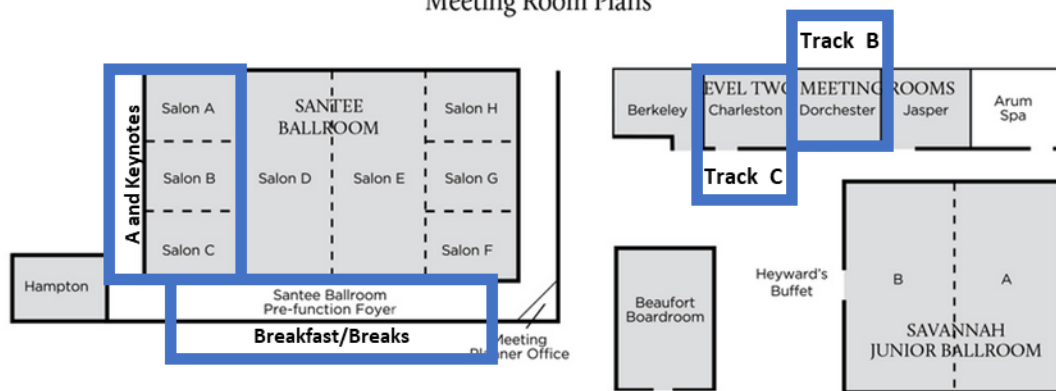
Hotel & Conference Information

Sonesta Resort – Hilton Head Island
130 Shipyard Drive, Hilton Head, SC



SONESTA RESORT
HILTON HEAD ISLAND

Meeting Room Plans



Registration: Lobby

Keynote Addresses: Salon ABC (A)

Meeting Rooms: Salon ABC (A), Dorchester (B), Charleston (C)

Meals: Prefunction ABC

Friday Social Event: Lawn (Savannah Prefunction)

Conference Schedule

Thursday, March 23

Time	Location	Session
6:30-8:30	Sea Crest	SAIS Board Meeting: Board Members and Invited Guests Only

Friday, March 24

Time	Location	Session
7:00-5:00	Lobby	Registration
7:30-8:30	Prefunction ABC	Breakfast
8:30-9:30	Salon ABC	Welcome and Keynote Address Bernie Farkas SAIS President Christopher Kreider SAIS Conference Chair Friday Keynote – Foundations of Information Systems <i>M. Granger</i>
9:30-9:45	Prefunction ABC	Break
9:45-11:00	Salon ABC	Session 1A Analysis, Design, and Development Chair..... <i>Bernie Farkas</i> A REVIEW OF MACHINE LEARNING APPROACHES FOR REAL ESTATE VALUATION <i>T. Root, T. Strader, J. Huang</i> EXPLORING THE U.S. CRIMINAL JUSTICE INFORMATION SYSTEMS AS AN ARTIFACT THROUGH AN UNEARTHING AND EXAMINATION OF WEB OBJECTS <i>R. Giles, A. Avery</i> WHAT ARE THE DETERMINANT VALUES SOUGHT BY USERS OF UTILITARIAN SOFTWARE? <i>A. Kakar, A. Kakar</i>
	Dorchester	Session 1B IS in Society Chair..... <i>Karthik Umapathy</i> ATTRACTIVENESS FACTORS AND IMPLICATION OF FITNESS YOUTUBERS TO AUDIENCES <i>C. Chiu, G. Li, C. Au</i> BOOSTING SME GROWTH THROUGH DIGITAL BUSINESS: THE ROLE OF ICT ACCESS AND ICT USAGE <i>M. Isaah, I. Adam, M. Alhassan</i> CLOUD SERVICES FOR MICROENTERPRISE SUSTAINABILITY: MULTI CASE ANALYSIS <i>M. Kamal</i>

Conference Schedule

Friday, March 24			
Time	Location	Session	
	Charleston	Session 1C	<p>Security and Privacy Chair.....<i>Michael Lapke</i></p> <hr/> <p>A LITERATURE REVIEW ON PRIVACY AND SECURITY IN VIRTUAL REALITY AND AUGMENTED REALITY <i>Y. Gumbo, L. Zhao, X. Tian, Z. Li, Y. Long</i></p> <hr/> <p>ASSESSING AND CONTROLLING SOCIAL DESIRABILITY BIAS IN CYBERBULLYING RESEARCH AUTHORS <i>D. Kim, K. Jang, J. Lee, D. Knaff</i></p> <hr/> <p>AUTISTIC EMPLOYEES, CYBERSECURITY, AND DIVERSITY: HOW THE THREE INTERSECT TO ENHANCE INFORMATION SECURITY AND PRIVACY <i>S. Qeshmi, J. Batchelor, G. Burch</i></p>
11:00–11:15	Prefunction ABC	Break	
11:15–12:30	Salon ABC	Session 2A	<p>IS Use Chair.....<i>Nicolette Gordon</i></p> <hr/> <p>AN INVESTIGATION OF COMPUTERIZED PHYSICIAN ORDER ENTRY SYSTEM USING ACTIVITY THEORY <i>X. Liu</i></p> <hr/> <p>DATA BREACH ANNOUNCEMENTS: EVALUATING THE CONTENT AND TIMING OF BREACH ANNOUNCEMENTS AND THEIR EFFECT ON FIRM VALUE <i>P. Viancourt, B. Walkup</i></p> <hr/> <p>EXPLORING SERVICE VARIETY IN HOT CRYPTO-WALLET: A MODEL OF INFLOW, ROLL & GO <i>PH. Shieh, C. Au, K. Law</i></p>
	Dorchester	Session 2B	<p>Education Chair.....<i>Jeanine Pridmore</i></p> <hr/> <p>SKILL NETWORKS FOR CAREER COMPETITIVE ADVANTAGE <i>J. Mansour, C. Van Slyke, K. Taylor</i></p> <hr/> <p>EXPLORING THE FUNCTION AND VALUE OF IT ADVISORY BOARDS IN HIGHER EDUCATION <i>B. Bovee</i></p> <hr/> <p>ROBOTIC PROCESS AUTOMATION <i>J. Pridmore, J. Godin, P. Rutner, F. Williams</i></p>

Conference Schedule

Friday, March 24		
Time	Location	Session
	Charleston	Session 2C – Data and Analytics Chair..... <i>Karthik Umapathy</i> <hr/> DOES THE NFT MARKET INTERACT WITH MAJOR FINANCIAL MARKETS? <i>L. Liu, W. Li, Y. He, W. He</i> <hr/> FINDING THE MOST INTERPRETABLE TOPIC MODELING APPROACH <i>A. Algarra, F. Lee</i> <hr/> TRANSFER LEARNING FOR COVID-19 IMAGE CLASSIFICATION USING LIGHTWEIGHT ARCHITECTURES: A SYSTEMATIC REVIEW <i>R. Godasu, D. Zeng, K. Suttrave</i> <hr/> SYSTEMATIC LITERATURE REVIEW AND RESEARCH MODEL TO EXAMINE DATA ANALYTICS ADOPTION IN ORGANIZATIONAL CONTEXTS <i>A O'Neal, K. Umapathy</i>
12:30–1:45	Prefunction ABC	Lunch and Break 15 Minute Overview – Prospect Press
1:45–3:00	Salon ABC	Session 3A Security and Privacy Chair..... <i>Jonathan Kaufman</i> <hr/> CONSPIRACY THEORIES: AN EXPLORATION OF THE LINKAGE BETWEEN HUMAN EMOTIONS, CHARACTERISTICS, AND INTENTIONS <i>S. Lamar, L. Ray, F. Wakoko</i> <hr/> EXAMINING THE EFFECTS OF VIRTUAL WORK ON CYBERSECURITY BEHAVIOR <i>A. Dutta, P. Sanyal</i> <hr/> SECURITY AND PRIVACY ISSUES IN THE NFT MARKET <i>Y. He, W.Li, L. Liu</i> <hr/> WILLINGNESS TO DISCLOSE IN FINTECH: A MULTIDIMENSIONAL DEVELOPMENT THEORY PERSPECTIVE <i>D. Oliver</i>
	Dorchester	Session 3B Enterprise IS Chair..... <i>Bernie Farkas</i> <hr/> DETERMINANTS OF GAMIFICATION EFFECTIVENESS: PERSPECTIVES OF AFFORDANCES AND COPING RESPONSES IN THE CONTEXT OF GAMIFIED ERP TRAINING <i>A. John, S. Park, Y. Zhao, DH Kwak</i>

Conference Schedule

Friday, March 24		
Time	Location	Session
		<p>EMPLOYEE MOTIVATION PRACTICES IN PUBLIC SECTOR ENTERPRISE SYSTEMS IMPLEMENTATION <i>N. Roztocki, W. Strzelc, H. Weistroffer</i></p> <p>VALUE CO-DESTRUCTION IN IT SERVICE ECOSYSTEM DRIVERS AND OUTCOMES <i>M. Heidari</i></p>
3:00–3:15	Prefunction ABC	Break
3:15–4:30	Salon ABC	<p>Session 4A Future of IS <i>ChairNicolette Gordon</i></p> <p>EDGE COMPUTING: APPLICATIONS AND SECURITY FEATURES <i>I. Kenne, H. Huang</i></p> <p>WORK TACTICS IN HYBRID WORK ENVIRONMENT: A GENDER PERSPECTIVE <i>G. Dhillon, K. Smith, J. Kaur, S. Dhillon</i></p> <p>A REVIEW OF GENDER RESEARCH IN INFORMATION SYSTEMS: FROM BIBLIOMETRIC ANALYSIS TO FUTURE RESEARCH DIRECTIONS <i>S. Zhou, E. Loiacono</i></p> <p>BEYOND E-GOVERNMENT: A FRAMEWORK FOR E-DEMOCRACY <i>N. Roztocki, W. Strzelczyk, H. Weistroffer</i></p>
	Dorchester	<p>Session 4B IS in Society <i>Chair.....Jeanine Pridmore</i></p> <p>DIGITAL TRANSFORMATION OF GHANA JUDICIAL SECTOR: AN ACTIVITY THEORY PERSPECTIVE <i>M. Elliot, J. Effah, R. Boateng</i></p> <p>IMPROVING HEALTH LITERACY: HEALTH KNOWLEDGE TRANSFER IN SOCIAL MEDIA PLATFORMS <i>Y. Shang</i></p> <p>IS M-PESA ENABLING THE POOR OF KENYA TO BANK WITHOUT A TRADITIONAL BANK ACCOUNT? <i>G. Gupta</i></p>
	Charleston	<p>Session 4C Governance, Project Management and Strategy <i>Chair.....Shawn Lough</i></p> <p>AN INVESTIGATION OF ANTECEDENTS OF COLLECTIVE EFFICACY AND THEIR INTER-RELATIONSHIPS <i>A. Kakar, A. Kakar</i></p>

Conference Schedule

Friday, March 24

Time	Location	Session
		<p>ASSESSING INFORMATION SECURITY MATURITY LEVELS IN ISP ORGANIZATIONS USING COBIT 2019 <i>P. Modisane</i></p> <p>ISD VIRTUAL TEAM PROJECT CULTURE <i>S. Negash</i></p> <p>HOW THE PUBLIC SHAPED THE INTERNET: OPEN-SOURCE SOFTWARE DEVELOPMENT AND IMPLEMENTATION THROUGH THE YEARS <i>T. Wolfenbarger, J. Smith</i></p>
5:00–6:30	Lawn Savannah (Prefunction in case of rain)	<p>Reception Social Event</p> <p>Beverages and hors d'oeuvres</p>

Saturday, March 25

Time	Location	Session
7:30–10:00	Lobby	Registration
7:30–8:30	Prefunction ABC	Breakfast
8:30–9:30	Salon ABC	<p>Keynote Address</p> <p>Saturday Keynote – Future of Information Systems <i>C. Van Slyke</i></p>
9:30–9:45	Prefunction ABC	Break
9:45–11:00	Salon ABC	<p>Session 5A Security and Privacy Chair.....<i>Karthik Umapathy</i></p> <p>IDENTIFYING TOMORROW'S SMART CITY PRIVACY CHALLENGES: A REVIEW OF LITERATURE <i>J. Wilerson, J. Smith</i></p> <p>IMPROVING ORGANIZATIONAL CYBERSECURITY EFFORTS THROUGH THE APPLICATION OF HIGH RELIABILITY ORGANIZING CONCEPTS <i>C. Posey, AJ Burns</i></p> <p>MIND THE GAP – DISCREPANCIES BETWEEN SMALL BUSINESS AND SERVICE PROVIDERS INFORMATION SECURITY EXPECTATIONS <i>C. Van Slyke, T. Ellis, K. Elder, J. Mansour</i></p> <p>MINING APP REVIEWS FOR SECURITY AND PRIVACY RESEARCH <i>AJ. Burns, C. Posey</i></p>

Conference Schedule

Saturday, March 25		
Time	Location	Session
	Dorchester	Session 5B IS in Society Chair..... <i>Nicolette Gordon</i> <hr/> SMALL BUSINESS SUPPLY CHAIN INFORMATION SYSTEMS: A REVIEW OF THE LITERATURE ON DIGITIZATION IN THE CONTEXT OF THE COVID19 PANDEMIC <hr/> <i>A. Osborne, A. Avery</i> <hr/> THE CELEBRITY FACTOR: MODELING THE IMPACT OF INFLUENCER STATEMENTS ON THE PUBLIC PERCEPTION TOWARD COVID-19 VACCINES <hr/> <i>A. Shah, S. Shah</i> <hr/> THE USE OF ADVANCED TECHNOLOGIES IN GOVERNMENT TO PROMOTE THE ETHICAL GROWTH OF PEOPLE <hr/> <i>M. Cuellar</i>
11:00–11:15	Prefunction ABC	Break
11:15–12:30	Salon ABC	Session 6A Education Chair..... <i>Jignya Patel</i> <hr/> IS IS DIFFERENT? EXPLORING STUDENT CHOICES FOR GRADUATE MAJOR SELECTION <hr/> <i>A. Woszczyński, A. Fellows, T. Bandyopadhyay</i> <hr/> THE IMPACT OF AN INFORMATION SYSTEM CURRICULUM ON ACTUAL AND PERCEIVED CRITICAL THINKING <hr/> <i>J. Wynekoop, K. Nakatani</i> <hr/> THE PERCEPTION OF PROJECT MANAGEMENT SKILLS FOR EFFECTIVE PROJECT MANAGEMENT AMONG STUDENTS <hr/> <i>M. Cuellar, M. Tabatabaei</i>
	Dorchester	Session 6B Security and Privacy Chair..... <i>Sue Feldman</i> <hr/> RESEARCH IN PROGRESS: ANYBODY HOME: PREDICTING WHETHER SOMEONE IS HOME BASED ON IOT NETWORK TRAFFIC <hr/> <i>J. Kaufman, C. Kreider, K. Williams, J. Walker</i> <hr/> ECONOMIC IMPACT TO OVERALL STOCK MARKET VALUE FROM INFORMATION SECURITY & DATA BREACH EVENTS <hr/> <i>J. Squillace, Z. Hozella, J. Cappella</i> <hr/> SECURITY BURNOUT AND SECURITY POLICY COMPLIANCE INTENTION <hr/> <i>S. Kim</i>

Conference Schedule

<i>Saturday, March 25</i>		
<i>Time</i>	<i>Location</i>	<i>Session</i>
		THE EFFECT OF HOMOMORPHIC ENCRYPTION ON VOTERS' PERCEPTIONS OF TRUST ON ELECTION SYSTEMS <i>J. Kaufman, M. Lapke</i>
12:30–1:45	<i>Savannah</i>	Awards Luncheon Christopher Kreider,..... SAIS Conference Chair Jignya Patel, SAIS Program Chair
1:45–3:00	<i>Salon ABC</i>	SAIS Business Meeting Bernie Farkas, SAIS Outgoing President
		SAIS 2024 Conference Planning Meeting

Conference Abstracts

A LITERATURE REVIEW ON PRIVACY AND SECURITY IN VIRTUAL REALITY AND AUGMENTED REALITY: *Y. Gumbo, L. Zhao, Z. Tian, Z. Li, Y. Long*

As technologies become more advanced and powerful, the progression towards embracing virtual reality environments in our daily activities becomes more real, and subsequently, the boundaries between virtual and physical worlds are more in question. However, several issues continue to persist as the world around us changes – privacy and security. In this paper, we are going to analyze the newer virtual reality (VR) and augmented reality (AR) applications, the privacy risks associated with these environments, current solutions – their benefits and challenges as well as potential newer solutions which can be implemented to increase privacy protection. The intention of this paper is to generate a comprehensive literature review on this topic. In addition to that, to raise the awareness of proper protection and safeguarding of the virtual reality (VR) users' private information, but also improve the overall measures used to control privacy and security in these virtual environments.

A REVIEW OF GENDER RESEARCH IN INFORMATION SYSTEMS: FROM BIBLIOMETRIC ANALYSIS TO FUTURE RESEARCH DIRECTIONS: *S. Zhou, E. Loiacono*

Despite the rising attention to gender research in the information systems (IS) area, research papers about gender and IS are still relatively rare in the Basket of Eight journals. Moreover, while previous research has provided critical insights into the methods and theories of gender research, there is no bibliometric review available that clarifies the evolution and structure of the field. This paper aims not only to reveal the body of knowledge, impact, and evolution of gender research in the Basket of Eight, but also to suggest potential future research avenues for IS researchers in the field. This study applies the bibliometric technique to analyze the current literature of gender-related studies in the Basket of Eight journals published from 1980 to 2022.

A REVIEW OF MACHINE LEARNING APPROACHES FOR REAL ESTATE VALUATION: *T. Root, T. Strader, Y. Huang*

Real estate managers must identify the value for properties in their current market. Traditionally, this involved simple data analysis with adjustments made based on manager's experience. Given the amount of money currently involved in these decisions, and the complexity and speed at which valuation decisions must be made, machine learning technologies provide a newer alternative for property valuation that could improve upon traditional methods. This study utilizes a systematic literature review methodology to identify published studies from the past two decades where specific machine learning technologies have been applied to the property valuation task. A set of theoretical and practice-based criteria are used for a multi-faceted performance assessment for each system. This assessment provides the basis for identifying the current state of research in this domain as well as theoretical and practical implications and directions for future research.

Conference Abstracts

AN INVESTIGATION OF ANTECEDENTS OF COLLECTIVE EFFICACY AND THEIR INTER-RELATIONSHIPS: *A. Kakar, A. Kakar*

Collective or Team Efficacy is considered critical for success of software development projects. In this multi-disciplinary study, we identify three antecedents of collective efficacy - team reflexivity, team cohesiveness and transactive memory - and develop a theoretical model by proposing their interrelationships. Team cohesiveness enhances team efficacy through social integration and sustenance of groups, while team reflexivity and transactive memory are cognitive processes that enable teams to monitor and react successfully to their ever-changing environment. The proposed theoretical model was validated with data from 34 software development projects. The results of the study show that overall the proposed theoretical was supported. While the impact of team reflexivity on team efficacy was both direct as well as partially mediated through transactive memory, the impact of team cohesiveness was fully mediated through transactive memory. The study findings have useful implications for practitioners.

AN INVESTIGATION OF COMPUTERIZED PHYSICIAN ORDER ENTRY SYSTEM USING ACTIVITY THEORY: *X. Liu, M. Jones, R. Torres*

A computerized physician order entry (CPOE) system refers to a type of health information technology used primarily in hospitals and designed for health care professionals to enter medical instructions and orders directly through a digital interface of a computer-based system instead of through word processor documents or paper charts (Khanna and Yen, 2014). Although the implementation of a CPOE system can bring many benefits such as medical error reduction and patient care quality improvement, problems may arise when physicians utilize a CPOE system. For example, physicians may perceive that it takes a long time to enter data into the system, or that the user interface is too complex (Yui et al., 2012). In addition, software and hardware issues such as accessibility, timeliness, reliability, integration, and flexibility may have an impact on health care professionals' perceptions of CPOE (Yui et al., 2012; Wixom and Todd, 2005). These issues may indicate the existence of misalignments between CPOE use and individual or organizational expectations, known in the parlance of activity theory as contradictions. It is important to understand and address the contradictions because although CPOE offers great promise, the benefits of CPOE are often not fully realized due to the contradictions related to its use. Activity theory, originally proposed by Engeström (1987), is a socio-technical theory which has been used to provide insights into a variety of application challenges in the IS domain. It is regarded as a framework to improve and enhance the design practices in human-computer interaction fields. Contradictions, a type of misalignment among elements, are also regarded as the driving forces of change in an activity system (Kuutti, 1996). Activity theory is multidisciplinary and can be employed to analyze interrelationships among multiple stakeholders. Hence, we draw on the rich and robust lens of activity theory to explore the contradictions related to the use of CPOE. In this study, we will adopt a mixed research method to explore two research questions. One is what is the

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impact of contradictions on system use and system benefits? Another is how do health care professionals address contradictions in their work routine? We adopt a snowball sampling method to collect the data. One of the authors is using her PUMC (Peking Union Medical College) alumni who work in hospitals and clinics in the United States to begin the data collection and obtain additional contacts. Our goal is to reveal and evaluate such contradictions, identifying which type of contradictions are of the most concerned, and further provide practical insights for vendors and health care professionals in the United States.

ASSESSING AND CONTROLLING SOCIAL DESIRABILITY BIAS IN CYBERBULLYING RESEARCH: D.

Kim, K. Jang, J. Lee, D. Knaff

Cyberbullying is defined as “an aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and over time against a victim who cannot easily defend him or herself” (Smith et al., 2008, p.376). Cyberbullying has the potential to disrupt or destroy the lives of children, adolescents, and their families (D’Auria, 2014). Cyberbullying is associated with negative outcomes for individuals and organizations, including anxiety, depression, substance abuse, murder, suicide, and others (Kowalski et al., 2014). Therefore, it is important to identify the causes and effects of cyberbullying to effectively prevent it. Much research has attempted to understand the determinants and consequences of cyberbullying based on the perspectives of victims, perpetrators, and bystanders (see Chan et al., 2021 for a review). Furthermore, prior research noted that perpetrators’ cyberbullying behavior is socially undesirable, social desirability (SD) bias should be assessed and controlled (Aboujaoude et al., 2015). Despite the fact, prior cyberbullying research has not paid much attention to SD bias from the perspectives of bystanders and victims. Since SD bias can contaminate variables, leading to a distortion in the causal relationships between dependent and independent variables, it is important to assess and control SD bias. Based on the research gaps, the purpose of this study is to assess and control SD bias in cyberbullying related behaviors in the context of victims, perpetrators, and bystanders. To assess SD bias, this study will use two methods: indirect questioning (Fisher, 1997) and SD scale using the 16 items of the balanced inventory of desirable responding (BIDR-16). Based on prior research (Kwak et al., 2021), the covariance technique will be used to control SD bias if SD bias is detected. We expect to contribute to research on cyberbullying and SD bias by examining SD bias in the perspectives of victims, perpetrators, and bystanders of cyberbullying

ASSESSING INFORMATION SECURITY MATURITY LEVELS IN ISP ORGANISATIONS USING

COBIT 2019: H. Crous, P. Modisane

The internet of things connects the world, allowing people worldwide to send and receive data. This includes personal data that can be harmful to users when in the wrong hands. Information Security (IS) has become an essential aspect of the current technological era to protect sensitive client information and avert the organisation from legal troubles. This puts Internet Service Provider (ISP) organisations in a unique

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position to help prevent data leaks and breaches and requires an effective Information Security Governance Framework to aid this process. This article provides research on securing and managing data in South African ISP organisations by determining which COBIT governance and management objectives are most valuable for implementation within ISPs from an Information Security Governance (ISG) perspective at which maturity levels. This answers the research question, "Which COBIT governance and management objectives are needed to improve information security in ISP organisations?". These COBIT objectives will be evaluated using the COBIT 2019 Toolkit, with data collected via questionnaires. This study aims to provide ISPs with a checklist of the most valuable governance and management objectives they should employ within their organisations from an ISG perspective.

ATTRACTIVENESS FACTORS OF FITNESS YOUTUBERS TO AUDIENCES: *C. Chiu, G. Li, C. Au*

In recent years, with the widespread use of social media and the proliferation of healthy lifestyles, the influence of fitness YouTubers is increasing. While YouTube can reach almost all internet users worldwide, it remains relatively unclear how these fitness YouTubers can engage their audience. Addressing this gap is important given these YouTubers may drive the health-related behaviors and habits of their audience. Upon fostering the public to establish healthier habits, the government expenditure in healthcare services may be reduced. In this research-in-progress paper, we presented an ongoing qualitative study based on the seven YouTubers. We identified that fitness YouTuber that can engage audiences have demonstrated six characteristics, including (1) regular updates on their YouTube channels, (2) credibility, (3) attraction words and presentation, (4) social interaction, (5) informative and (6) entertainment. By successfully engaging the audience, it is hoped that audience's intention to perform health-related behaviors can increase.

AUTISTIC EMPLOYEES, CYBERSECURITY, AND DIVERSITY: HOW THE THREE INTERSECT TO ENHANCE INFORMATION SECURITY AND PRIVACY: *S. Qeshmi, J. Batchelor, G. Burch*

The social model of autism views behavioral traits, such as autism, as one would any other demographic characteristic (Googley, 2011). Yet, many employment selection procedures (i.e., face to face interviews) are biased against individuals with autism as they rely heavily on skills such as appearing likeable and agreeable (Rivera, 2012). Further, individuals with autism tend to do well in jobs that require attention to detail and that are highly repetitive, i.e., information systems (Whelpley et al., 2021). But, because of their lack of social skills, such individuals often do not survive the employment screening process of many organizations. Burch et al. (2021) point out how screening individuals for certain personality traits, in particular the Dark Triad (narcissism, Machiavellianism, and psychopathy), is necessary because such individuals present a much higher security threat than others. Fortunately, autistic individuals have been shown to be low in dark triad personality traits (Brown et al., 2019). Thus, one could argue that this makes them less of a security threat. Patel (2012) discusses how, in addition to the forementioned benefit of hiring autistic employees in security and

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privacy, they are also naturally equipped to handle complex, monotonous cybersecurity and big data analytics issues more so than neuro-typical individuals. This is because of their enhanced pattern recognition skills and ability to focus for long periods of time. Therefore, from an information security perspective, employing autistic individuals can help to reduce the threat posed by dark triad personality traits and lack of attention to detail (with regard to security procedures) as compared to employing neurotypical individuals. Cybersecurity incidents are constantly increasing in both frequency and size, leading to major financial losses and tainted reputation of the affected organizations. The Center for Strategic and International Studies (CSIS, 2018) estimates that the cost of cybercrimes for the global economy is about \$600 billion per year. The job growth within the cybersecurity industry has led to a shortage of employees for this role. There is also a lack of relevant skills among job seekers which has resulted in a fierce competition among companies for workforce in this area (Scanlan et al., 2020). In addition, current technologies and techniques are not always effective against cyberattacks because attackers are humans and can bypass the security measures of many organizations (Patel, 2012). A more creative, less myopic, approach in this regard can be the solution. As such, we highlight the key benefits of employing autistic individuals in information security and privacy, and how to develop employment screening techniques to identify and select such individuals free of bias. Initial empirical results show that selection procedures that do not rely on situational judgment or personality tests produce the least adverse impact on autistic applicants.

BEYOND E-GOVERNMENT: A FRAMEWORK FOR E-DEMOCRACY: *N. Roztocki, W. Strzelczyk, R. Weistroffer*

As our civilization more and more moves towards an e-society, a society where the use of information and communication technologies (ICT) is increasingly accepted and integrated in all aspects of daily life, e-government may be evolving into edemocracy. Whereas traditionally e-government has been mainly providing information and services to people and organizations over the internet, with the decision-making remaining chiefly on the government side, e-democracy allows the general population to be included in democratic processes (e-inclusion) and participate in policy making (e-participation). This paper provides a framework for e-democracy while exploring the outlook for e-democracy in our increasingly digitalized world

BOOSTING SME GROWTH THROUGH DIGITAL BUSINESS: THE ROLE OF ICT ACCESS AND ICT USAGE.: *M. Issah, I. Adam, M. Alhassan*

The purpose of this research is to examine the role that ICT access and ICT usage plays towards the adoption of digital business and SME growth in the context of sub-Saharan Africa using a developing country Ghana as a case study. Specifically, the study will look into the extent to which access to ICTs affects SME growth, the extent to which ICT usage affect SME growth and the impact of digital business adoption on SME growth. Using a quantitative approach, a survey instrument will be developed to collect data from SME owners and managers and analyzed using partial least squares modelling

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(PLS-SEM). The study is expected to advance our understanding of information systems, deepen the conversation on the role that ICT usage and access plays in the adoption of digital business and the expansion of SMEs, and offer some implications for research practice and policy.

CLOUD SERVICES FOR MICROENTERPRISE SUSTAINABILITY – MULTI CASE ANALYSIS: *M. Kamal*

In this study, the opportunity offered by cloud services within microenterprises is investigated. Since the ability of microenterprises to adopt technology depends upon the unique conditions in which they find themselves, the goal of this study is to investigate and assess such adoption through a very systematic and contextualized approach. An action research methodology was used to investigate three microenterprises in Western New York during a five-month timespan. The contribution of this study is in applying a modified adaptation of the capabilities framework to understand the impact from adopting and using cloud services within micro-enterprises

CONSPIRACY THEORIES: AN EXPLORATION OF THE LINKAGE BETWEEN HUMAN EMOTIONS, CHARACTERISTICS, AND INTENTIONS: *S. Butler, L. Ray, F. Studstill*

The Internet has recently been plagued by conspiracy theories and disinformation campaigns, making both cyberspace and the physical world increasingly unsafe. These conspiracy theories and disinformation campaigns travel through social networks and reach millions of people within a very short time before any attempt to verify the veracity of the information can be made. Most conspiracy theories and disinformation campaigns are designed to evoke strong emotional response and reaction in people. Often, the consequences become far-reaching, violent and even fatal. To minimize risks of such incidents emanating from disinformation campaigns and conspiracy theories and build a secure and sustainable cyber-infrastructure, we need a deeper understanding of cyber-mediated changes in human psychology and behavior. Our work seeks to extend the extant literature by expounding upon the study of Gratian et al which offered a comprehensive examination of how risk-taking preferences, decision-making styles, demographics, and personality traits influenced specified security behavior intentions [4]. It also seeks to contribute to Egelman and Peer's work on security behavior intentions [3]. The biometric technology employed in this study offers deeper insights in understanding the relationship between human characteristics and human emotions, and conspiracy theories. Our research falls under the newly emerged discipline "social cybersecurity" [1], an applied computational social science that aims to "characterize, understand, and forecast cyber-mediated changes in human behavior and in social, cultural, and political outcomes". According to previous research this biometric technology supports the uninterrupted collection of facial and bodily reactions that create the basis for measuring human emotions [2]. The facial expression tracking and skin conductivity technology employed in this study are recommended as useful, nonintrusive methods of data collection. Using this technology in addition to traditional data collection methods to explore the link between emotions and

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interactions will offer insights that are less biased than those that can be concluded from self-reported survey responses.

DATA BREACH ANNOUNCEMENTS: EVALUATING THE CONTENT AND TIMING OF BREACH ANNOUNCEMENTS AND THEIR EFFECT ON FIRM VALUE: *P. Viancourt, B. Walkup*

Cybercrime has significant impacts to firms. One way to measure the significance of cyber events such as data breaches to firm valuation is using event studies. However, the findings of previous event studies in this area have been mixed and need additional research. Additionally, the effect of firm-specific actions contained in the breach announcement, as well as the timeliness of the breach notification itself, have yet to be studied. The current research applied four event study models to data breach announcements over the period 2017-2021, resulting in statistically significant negative cumulative average abnormal returns (CAAR) in days immediately surrounding the breach announcement. A series of cross-sectional regression analyses noted that shareholders reacted more favorably to breach responses including free credit monitoring for those affected and the hiring of a forensic expert. However, investors generally reacted more negatively to breach announcements during periods of high investor uncertainty.

DETERMINANTS OF GAMIFICATION EFFECTIVENESS: PERSPECTIVES OF AFFORDANCES AND COPING RESPONSES IN THE CONTEXT OF GAMIFIED ERP TRAINING: *A. John, S. Park, Y. Zhao, D. Kwak*

Gamified training has played an important role in the adoption of complex information systems (e.g., enterprise resource planning) in the organizational context. To better understand gamified systems, it is important to examine their effective use in training employees. Despite its significance, prior research has paid little attention to the factors that influence effective use in the context of gamified training. The purpose of this study is to identify the determinants of the effective use of the ERP simulation game (ERPsim). Drawing on previous research on technology affordances (Markus and Silver 2008), coping responses (Wang et al., 2017), and ERPsim research (Kwak et al., 2019), this study proposes that ERPsim affordances (e.g., collaboration and competition) affect coping responses (e.g., task-oriented, emotion-oriented, and avoidance coping), which lead to effective use of ERPsim. Specifically, we hypothesize that collaboration and competition affordances increase task-oriented coping while decreasing emotion-oriented and avoidance coping. This study further proposes that the effective use of ERPsim is positively influenced by task-oriented coping, but negatively influenced by emotion-oriented and avoidance coping. To test the research model, we collected data from 255 graduate students who registered for an ERP overview course offered in a mid-sized public university in the United States. The results of structural equation modeling showed that collaboration affordance significantly affects task-oriented, emotion-oriented, and avoidance coping. However, competition affordance influenced only task-oriented coping. This study also found that task-oriented and emotion-oriented coping affected the effective use of ERPsim, but we did not find a significant effect of avoidance

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coping on effective use. Our study contributes to the existing literature by showing the important roles of affordances and coping responses in explaining effective use.

DIGITAL TRANSFORMATION OF GHANA JUDICIAL SECTOR: AN ACTIVITY THEORY PERSPECTIVE: *M. Ashong Elliot, J. Effah, R. Boateng*

The purpose of this study is to understand the digital transformation initiative in the judicial sector in Ghana. The study uses activity theory as an analytical lens to understand the relationship between the actors (i.e. entities that interact with the system and are also part of the digital transformation process) and the e-Justice system that was implemented in the judicial sector in Ghana. The study employs an interpretive case study approach to understand how the judicial sector transforms its processes digitally. The results from the preliminary study show that the unavailability of needed digital infrastructure affects the smooth implementation of the digital transformation initiative. The implementation process progressed speedily as the management of the judicial sector bought into the vision. However, the relationship and interaction of the actors must be studied further to understand the different interactions among the actors within the context of the activity theory model

DOES THE NFT MARKET INTERACT WITH MAJOR FINANCIAL MARKETS?: *L. Liu, W. Li, Y. He, W. He*

Non-fungible tokens are digital certificates of ownership representing digital or physical assets such as photos, artworks, videos, tickets, etc. As NFTs are becoming increasingly popular and the market size is exploding, the debate over whether the NFT market is an effective and efficient financial market has been contentious. This study investigates the correlation between the NFT market and major financial markets. Using 508 NFTs' volume and price in 221 days, we construct three versions of NFT market index to track the NFT market volatility. Furthermore, by using an autoregressive moving average model with exogenous variables, the study found a strong positive relationship between all NFT market indices and the cryptocurrency and stock markets. Moreover, based on the sentiment analysis of public user-generated content on NFT on Twitter, we found that negative opinions are positively associated with the NFT market index fluctuation rate.

ECONOMIC IMPACT TO OVERALL STOCK MARKET VALUE FROM INFORMATION SECURITY & DATA BREACH EVENTS: *J. Squillace, J. Cappella, Z. Hozella*

Through a review of the extant body of literature, we identified Event Study Methodology (ESM) as the appropriate tool to determine the financial impact of an isolated event on corporate stock market value; in this research, the event is the data breach [1]. Based on the demonstrably successful use of ESM across varying domains, including Accounting, Finance, Healthcare, and Technology [2], we extend its use case to tackle this problem. In this investigation, we will utilize ESM to examine the economic impact of data breach events. It is argued that minimal economic incentive exist to motivate proactive corporate investments in security. Specifically, we posit that the

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financial resources necessary to reduce the potential risk from security breach incidents are more cost-prohibitive [1] than the potential negative financial loss from a data breach. We further argue that taking a robust security posture towards data protection is aligned with organizational culture, with only minimal concern existing for the resultant potential financial loss to overall stock market value from a data breach. We will perform quantitative analysis of the data sample to determine the financial impact the data breach had on the overall stock market value of the associated corporation. In our research, we will use Efficient Market Hypothesis (EMH) theory (Fama et al., 1969), with the relative Capital Asset Pricing Model (CAPM)-based Market Model (MM) to calculate market pricing using three stock market indices. Return data will use the MM to estimate daily returns for each corporation using 245 daily returns with an estimation window of 250 days [-250, -10] beginning -250 days before the first event and ending -10 days before the event. The objective of this research is examining data breach incidents to better understand the financial relationship between stock market value and security investments. While little evidentiary data exists to encourage proactive investments in data security [1], this is the reason more research is needed [1], [2]; introducing new security methods to increase protection and wealth.

EDGE COMPUTING: APPLICATIONS AND SECURITY FEATURES: *I. Keene, H. Huang*

Edge computing is an extension of cloud computing and is capable of providing storage, data processing, and intelligence at the edge of the network that is closer to the IoT devices and mobile applications. Compared with traditional cloud computing, edge computing can provide scalable, quality services with low latency, low bandwidth cost, low energy consumption, and real-time data processing due to its proximity to the end users. This paper provides a review of edge computing architecture, key technologies, real-world applications, and discusses the security challenges and opportunities related to edge computing.

EMPLOYEE MOTIVATION PRACTICES IN PUBLIC SECTOR ENTERPRISE SYSTEMS IMPLEMENTATION: *N. Roztocki, W. Strzelczyk, R. Weistroffer*

Employee motivation can be an important factor in enterprise systems implementation, and practices from the private sector may not always be available in public sector organizations. The public sector differs considerably from the private sector in type of stakeholders, regulations, available resources, and internal culture. This study, based on semi-structured interviews of local government employees in Poland, explores practices used in motivating employees during enterprise systems implementation in local administrations. The interviewees, having been involved with enterprise systems implementation in their agency, represent diverse levels of experience and authority. Building trust in leadership and promoting a sense of community, in addition to tangible rewards, were found to be most valuable in motivating employees.

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EXAMINING THE EFFECTS OF VIRTUAL WORK ON CYBERSECURITY BEHAVIOR: *A. Dutta, P. Sanyal*

The Science of Security (SoS) initiative at the NSA identifies Five Hard Problems, one of which is understanding human behavior. Our study focuses on behavioral aspects of cybersecurity and is motivated by the changes brought about by the pandemic. Even though COVID is now under control, the work from home (WFH) component of organizational activity will remain significant. We propose a theoretical model that incorporates WFH factors into existing models of cybersecurity behavior. We characterize WFH based on Herzberg's motivation-hygiene theory of job satisfaction. A survey instrument is being developed to test the model. While the literature has viewed WFH as a negative force in cybersecurity, our job satisfaction conceptualization of WFH reveals that WFH also provides flexibilities that improve job satisfaction, which in turn have a positive impact on cybersecurity behavior. We develop testable hypotheses, and the managerial implication of our theoretical model is also discussed.

EXPLORING SERVICE VARIETY IN HOT CRYPTO-WALLET SERVICES: A MODEL OF INFLOW, ROLL & GO: *P. Shieh, C. Au*

The emergence of cryptocurrencies has fostered the development of different hot crypto-wallet services, who usually integrate the wallet with cryptocurrency exchanges and other different services, serving their users with no software installation required. However, it is unclear how these service providers can develop and manage varieties of their services, which is nevertheless essential for addressing different customers' needs. In this study, we adopted qualitative methods reviewing several hot cryptowallet services. We established a preliminary model covering all capital flow activities around the service, namely "inflow, roll & go". This model may serve as a reference for hot crypto-wallet services to develop their service varieties.

EXPLORING THE FUNCTION AND VALUE OF IT ADVISORY BOARDS IN HIGHER EDUCATION: *B. Bovee*

Recent advances in artificial intelligence have created a need for diverse leadership perspectives in higher education technology programs. IT faculty and administrators at universities are held accountable to the relevancy of their programs in this ever-changing technological landscape. IT advisory boards provide a mechanism for universities to build partnerships with industry leaders to build relevant programs and provide avenues for student success both during and after graduation. This paper examines the purpose, authority, benefits, requirements, and other elements of successful advisory boards. A case study of a private university with three IT programs is used as an example of the process used to research, build, and derive benefits from an advisory board.

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EXPLORING THE U.S. CRIMINAL JUSTICE INFORMATION SYSTEMS AS AN IS ARTIFACT THROUGH AN UNEARTHING AND EXAMINATION OF WEB OBJECTS: *R. Giles, A. Avery*

It is important to understand our criminal justice information systems (CJIS) in the same way that we understand the information systems of other knowledge domains. CJIS is often an alluded figure in a wide range of discussions, from public safety to privacy to social equity. Criminal justice information systems are largely hidden from the public purview in contrast to the information systems in other fields, such as those in healthcare and banking, which the general public frequently interacts with. The US criminal justice system relies on information technology, perhaps more than any other field (Ioimo, 2018). Despite the importance of CJIS to our nation's criminal justice operations since the mid-1960s, very little research has been done on the CJIS as an artifact, its advancement, or regulation (Dunworth, 2000). In this research in progress, we ask, what are the salient features of the CJIS artifact in the United States? Using a digital ethnographic approach and an information systems (IS) artifact lens, we collect web objects from each of the 50 official CJIS state websites. These web objects consist of web-based official documents, official training information, and official rules and procedures, among other types of objects. Utilizing the information systems (IS) artifact framework of Lee et al. 2014 we classify the web objects into three distinct IS artifact categories, which include technology artifacts, information artifacts, and social artifacts. These IS artifact categories are used to describe and map the overall CJIS artifact for the United States. The technology artifacts serve as human-made tools utilized for problem-solving; in the realm of CJIS, technology artifacts consist of IS frameworks unique to criminal justice as well as hardware and software systems. Further, social artifacts comprise of legislative processes, relationships, governance, and other forms of social interaction and include such artifacts as CJIS state regulations and details on governance oversight committees. Information artifacts serve as the locus for communication, conflict, or coordination and include such artifacts as databases and data uploads. For the US CJIS, all three IS artifact categories are reliant upon one another, and an artifact may not be mutually exclusive to one category. For example, in the US CJIS, a technology artifact, such as a large database, is used to create an information artifact from the sharing of data, which in turn builds on the social artifact once that data is communicated. We find that the IS artifact framework of Lee et al. 2014 helps to create a cohesive mapping of the features of the US CJIS artifact enabling the advancement of research in this area.

FINDING THE MOST INTERPRETABLE TOPIC MODELING APPROACH: *A. Algarra, F. Lee*

A majority of data, over 80%, is unstructured information like text, video, and social media (Harbert, 2021), and they are waiting to be analyzed. These undiscovered data also can be a substantial resource with the potential to create a competitive advantage for many organizations. As the number of unstructured data increases, many machine-learning techniques, including topic modeling and sentiment analysis, have replaced a traditional manual approach to analyzing textual data. Specifically, Latent Dirichlet Allocation (LDA), one of the topic modeling algorithms, is widely used to discover

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hidden semantic patterns in a large, relatively unstructured document corpus. LDA discovers a topic that a group of words characterizes, and then the topics identified illustrate a document description. This model helps to express a document's semantic content, allowing a qualitative description of the document. Text documents contain hidden semantic patterns called topics, and each of these topics is defined by a probability distribution over a fixed set of words (Blei et al., 2003). The output of a topic model can only be as good as its input. Therefore, when building a topic model, it is essential to use the most informative features of the corpus. Some researchers suggested that building a topic model on a noun-only corpus may improve the model's performance (Martin and Johnson, 2015). The suggestion of this noun-only approach is based on the fact that nouns are more informative of a document's content than other parts of speech, such as adjectives, adverbs, or verbs. While the noun-only approach may be informative in some areas, it may not always be instructive in many contexts and big data. This study aims to find and propose the most interpretable topic modeling approach by comparing different social media text versions: the Original text, the Lemmatized, and the Noun-only. This study collected over 50,000 Twitter text data on employee attrition and analyzed the data using LDA. The first model was generated from the raw data, and the second was generated from the lemmatized version. Finally, the third model was generated from the lemmatized data reduced to nouns only. The process and result of three different versions of the LDA analysis were recorded and compared. The findings and implications of this study will be presented at the conference.

HOW THE PUBLIC SHAPED THE INTERNET: OPEN-SOURCE SOFTWARE DEVELOPMENT AND IMPLEMENTATION THROUGH THE YEARS: *T. Wolfenbarger, J. Smith*

Open-source software (OSS) is ubiquitous, being implemented into nearly 90% of all websites and applications a user interacts with to some degree (Fitchner, 2022). This study focuses on how OSS has changed the technological landscape throughout its history, the various dangers and benefits inherent to its implementation, its relevance to the commercial and public entities, and future works that aim to regulate its use. The information presented provides a holistic and in-depth look at OSS as an independent subject. The topics covered provide characteristics necessary to determine whether OSS is beneficial to the growth of the technological industry, and more importantly highlight areas that can be improved or managed more effectively.

IDENTIFYING TOMORROW'S SMART CITY PRIVACY CHALLENGES: A REVIEW OF LITERATURE: *J. Wilkerson, J. Smith*

The right to privacy's foundation is supported by four pillars; the right to private facts, the right to prohibit others from using one's likeness, the right to challenge defamation claims, and the right to unreasonable personal intrusion. Tomorrow's "hightech" Smart City is characterized by countless digital consumer privacy and information security triggers which challenge Americans' right to protect their personal identifiable information. The pressing privacy question is, are consumers aware of the privacy

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implications when navigating across Smart Cities? This literature review implements a mixed-method research strategy. First, this paper examines the roles of the theories of information flow, social contracts, and being left alone in digital consumer identity theft. Second, this research explores federal and state government agencies privacy policies to understand potential Smart City ecosystem privacy gaps. This literature review reveals predictable and unpredictable trends and patterns which could contribute to digital consumer privacy flaws and cyber complaints.

IMPROVING HEALTH LITERACY: HEALTH KNOWLEDGE TRANSFER IN SOCIAL MEDIA PLATFORMS: *Y. Shang, Y. Harb*

The past decade has witnessed rapidly developed and tremendous growth in health-related social media services, such as online consultation services, patient blogs, social network sites, and online communities (Shang & Liu, 2015; Shang 2019). One of the most important reasons is that Internet-based healthcare services can be used by both healthcare providers and receivers for information dissemination/acquisition and/or knowledge exchange (Liu, Zhang, Li, & Deng, 2013). According to NCHS data brief No. 66 (Cohen & Adams), 61% of American adults have looked for health or medical information on the Internet, and the number is increasing every year. Internet-based healthcare services appear to be a means for healthcare information dissemination, health literacy education, and physician-patient communication. Especially, when more and more healthcare providers realized patients are central to healthcare delivery (Rozenblum and Bates, 2013), the using of online health-related social media platforms becomes an important channel for improving the quality of healthcare. This study aims at understanding the factors that impact the effectiveness of health knowledge transfer in online health-related social media platforms. We attempt to answer the following research question: what are the factors that impact the effectiveness of health knowledge transfer in online health-related social media platforms? To do so, we will first identify the factors that may affect the knowledge transfer in online health-related social media platforms; then, we will formalize and test hypotheses regarding factors that impact the effectiveness of knowledge transfer in online health-related social media platforms; and finally, we will provide suggestions on improving public health literacy through the online health-related social media platforms. This study is built upon previous theories: Technology Acceptance Model (TAM), Social Capital and Social Cognitive Theory (SCT), and the knowledge-based view of the competitive advantage. We formalized several hypotheses and the measurements for each construct were adapted from previous studies. The data will be collected through a web-based survey. We will analyze the data using SmartPLS. Findings and discussions will be provided based on the data analysis results. As a knowledge-intensive domain, the quality of healthcare services depends not only on the healthcare provider but also on the health literacy of the care receiver. In order to provide better care, healthcare providers are struggling with public health education. This study suggests a model that helps to understand the knowledge transfer process. It will not only help healthcare providers

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manage the Internet-based service channel but also benefit offline face-to-face service by providing a means of health literacy.

IMPROVING ORGANIZATIONAL CYBERSECURITY EFFORTS THROUGH THE APPLICATION OF HIGH-RELIABILITY ORGANIZING CONCEPTS: *C. Posey, A. Burns*

Organizations worldwide experience negative cybersecurity incidents. Even those organizations focused on cybersecurity (e.g., LastPass) or the protection of national security are not immune. While organizations' adoption of general (e.g., NIST, CIS) and industry-specific (e.g., FERPA, GLBA, HIPAA) security/privacy standards, practices, etc. has increased, the confluence of new technologies, hybrid work environments, and ever-increasing interorganizational system integration extends organizational risk exposure and necessitates that we consider additional ways to help alleviate cyber incidents. One domain whose findings can complement existing efforts in organizational cybersecurity is the research on high-reliability organizations (HROs) (Burns, 2019). HROs are organizations that operate in extremely hazardous conditions yet do so nearly error free for long time periods (Roberts, 1990). Nuclear submarines (Bierly III & Spender, 1995), aircraft carriers (Roberts, Rousseau, & La Porte, 1994), and utility infrastructures (Weick & Sutcliffe, 2011) are but a few examples of complex systems that function at high reliability levels despite often adverse and variable conditions. This presentation will discuss the core elements of HROs and will link the 'dynamic non-events' found in the HRO literature (e.g., Weick, 1987) to the cybersecurity risks experienced by many modern organizations. In addition, it will explore the managerial concepts that HRO leaders utilize to foster and maintain high levels of protection motivation among employees when negative events do not occur. The overall goal is to help shed light on new ways to think about and approach organizational cybersecurity from both practical and theoretical perspectives

IS IS DIFFERENT? EXPLORING STUDENT CHOICES FOR GRADUATE MAJOR SELECTION: *A. Woszczyński, A. Fellows, T. Bandyopadhyay*

Students and industry alike tend to confuse or use interchangeably information systems (IS) and information technology (IT), making it difficult for prospective students to distinguish one program from the other. Previous studies on program choices in IS or IT focused on undergraduates. We extend this research to the graduate setting, using the Theory of Planned Behavior to assess the decision-making process for students selecting a graduate degree in IS or IT. Our instrument is pilot tested and validated and our designed data collection strategy includes respondents who have demonstrated their choice of graduate majors. We have recently begun distributing the survey to graduate students at a large southeastern university with majors in both IS and IT, and we have included the demographic statistics of the initial data. Research outcomes may help students choose appropriate majors, while providing programs with information on how to recruit students who are a good fit.

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IS M-PESA ENABLING THE POOR OF KENYA TO BANK WITHOUT A TRADITIONAL BANK ACCOUNT?: *G. Gupta*

The paper aims to study the economic impact of the M-PESA mobile money on the lives of the poor people of Kenya – whether M-PESA is lifting them out of poverty and improving their socio-economic status. Albeit not novel, the study will discuss the M-PESA mobile money service available to the poor in Kenya, what it is, how it works, and then analyze if it is helping the poor. The paper will elaborate, by compiling data and analyzing them, on the financial applications of M-PESA for the poor of Kenya. The data will support that M-PESA empowers the poor with independence and self-reliance. At the same time, it enables them to manage their finances without having an account in an intimidating affluent bank located far away in major cities. It will also show that the mobile-money M-PESA enables the destitute of Kenya, without a traditional bank account, to manage their money safely, unlike in the past when the impoverished stashed their hard-earned cash in their house unsafely.

ISD VIRTUAL TEAM PROJECT CULTURE: *S. Nagash*

Cultural diversity prevails when the values, norms, and practices of group members are different, when not aligned, cultural diversity creates contradictions. The contradictions create conflicts that may enhance or detract the project objectives. In studying ongoing projects, we intend to identify emergent contradictions and apply strategies to increase project enhancing while minimizing project detracting outcomes. This study looks at four areas of cultural contradictions identified in prior research (1) organization culture ↔ culture of the IS, (2) organization culture ↔ project culture, (3) project culture ↔ occupation culture, and (4) organization culture ↔ occupation culture (Emergent cultural, 2023; Geeling, S., Brown, I., & Weimann, P., 2020). The ISD project work culture is remote-first, supporting 'digital nomad' work cultures with virtual platform and communication; connectivity and digital access are paramount. The digital quality dimensions exhibited by mobile speed (Mbps), mobile internet stability index, broadband speed (Mbps), broadband internet stability index, and overall internet quality ranking and index (Digital quality index, 2021) are relevant for this virtual ISD project. Mobile and broadband speed and stability varies among the three countries with significant implications (and cultural contradictions) on performance. Based on the team dynamics and performance we applied iterative project management and communication process. Initially the project was setup where developers directly engage with managers, no interventions or middleman; communication & management intervention was handled via email; and each country team had their own stand-up team. This initial setup had numerous miscommunications and ended up with three resources terminated within a week. Learning from the challenges, the project management process was updated by creating a single stand-up to align with the manager in India; single collaboration platform with messaging, video calls, file sharing, and task board; and a process and status update session was setup for the Ethiopian team in advance of the combined stand-up. This showed some improvement in communication and performance. A month later, a second project management update

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included a talent pool pipeline by establishing an internship program with local Ethiopian universities; develop internship process with four stages each with 4-weeks duration: courting, in-training, independent, and candidate; process and cultural orientation for interns; access to collaboration platform (rocket.chat, an open-source platform) and setting expectations for interns; and implemented pair programming for interns.

MIND THE GAP – DISCREPANCIES BETWEEN SMALL BUSINESS AND SERVICE PROVIDERS INFORMATION SECURITY EXPECTATIONS: *C. Van Slyke, S. Ellis, K. Elder, J. Mansour*

Information security threats represent a significant risk for businesses of all sizes. Small businesses often lack the resources necessary to deal with information security internally. So, they often rely on service providers to secure their digital information assets. In many instances, these providers do not specialize in security; they may provide general information technology (IT) services. Small businesses may also rely on non-IT services firms, such as payment processors, to ensure the security of some information and systems. There may be discrepancies between what services managers think they are receiving and what is actually being provided. Managers, especially of small businesses, often lack the technical expertise to adequately assess outsourcing contracts and agreements, which may lead to misunderstandings and service gaps. This may lead to an under-appreciation for the complexities of information security. Further, managers may engage in avoidance thinking, believing that their business are unlikely to be targets of attacks. The information security belief-service gap has several implications. First, the gap may lead to managers having a false sense of security, believing that providers are fully securing systems and information, when such services are not actually part of the service agreement. As a result, there may be attack vectors that are not being adequately considered and protected. Second, small business managers may experience unwarranted dissatisfaction with providers if the managers expect services that were not promised by providers. This could lead to damaged relationships and unnecessary switching costs. Finally, if security violations do occur, managers may not receive the help they anticipated from providers, which can exacerbate an already bad situation. Adverse effects could spread beyond the small business to its customers and suppliers, leading to reputational and economic losses for the small business. Theories related to similar gaps, such as expectation-disconfirmation theory, may not adequately account for the small business information security belief-service gap. For example, expectation-disconfirmation theory includes perceived performance as an indicator of disconfirmation. But in the case of security, performance may be hidden. Some managers may be unaware of what performance would mean in the case of security. Protecting against a risk is hard to assess without specific technical knowledge of the risk, so even when managers think they can assess security performance, it is unlikely that they can do so to any degree of accuracy. Managers may build their assessments of performance on the lack of an adverse security event. This may lead to a serious overestimate of actual performance, leaving the business at risk. Taken as a whole, these factors present a complex situation that is not well understood.

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Because of this, we are engaging in a qualitative study of the small business security belief-service gap. We are interviewing both small business managers and service providers to assess the existence and causes of gaps. We will build an emergent model of the causes and consequences of the belief service gap. We will complete initial interviews to conduct a preliminary analysis prior to the conference. We will present initial results.

MINING APP REVIEWS FOR SECURITY AND PRIVACY RESEARCH: A. Burns, C. Posey

Information systems (IS) researchers are interested in individuals' adoptions of security and privacy related technologies and applications. For example, prior research has examined the use of anti-spyware applications (Johnston & Warkentin 2010), as well as password managers and two-factor authentication (Mattson et al. 2022). The implication is that these technologies are beneficial and consistent with an enhanced information security and privacy posture for the individuals. That said, questions remain about these applications and their adoption, especially in mobile environments. This is important because today individuals rely on mobile devices (e.g., smartphones and tablets) more than any other computing platform. We believe a potentially complementary source of information about security and privacy application adoption exists within mobile app (mApp) reviews. Although these reviews lack quantitative controls, they can be a rich source of information for researchers to mine for users' opinions, attitudes, expectations, beliefs, and intentions. For example, on January 14, 2023, three of the top ten productivity apps in the iOS store (by downloads) were security and/or privacy related apps. 1 Searching on the google play store for privacy applications shows a variety of applications designed to help users preserve their privacy in mobile environments. These apps include encrypted messengers, VPNs, web browsers, and locking photo storage apps. These privacy-related apps have millions of user-generated reviews. 2 Although the average review might not be insightful beyond its star rating and sentiment, with so many reviews available, a large number will provide additional information. For example, consider the following review for a password manager app: "Great app. Like most other people I now have too many passwords to maintain at work, let alone private ones as well. ... this syncs across all my devices ... Also love the password generator, replacing all my passwords with a generated one. Much more secure, if one account gets hacked, only that one not all. ..." [emphasis added]. Based on reviews like this, future research could investigate the role of password volume in password manager app adoption. The number of devices an individual uses might also play a role. Finally, the review also points to fear (hacking) as a motivator. As described, this work is early-stage, exploratory research. We believe that future research should consider text-mining tools such as Latent Dirichlet Allocation (LDA), one of the most popular topic modelling algorithms (Palese & Piccoli 2020), to assist in the analysis of mApp reviews. We believe topic extraction can complement traditional research methods.

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RESEARCH IN PROGRESS: ANYBODY HOME: PREDICTING WHETHER SOMEONE IS HOME BASED ON IOT NETWORK TRAFFIC: *J. Kaufman, J. Walker, K. Williams, C. Kreider*

The amount of technology growth that has been occurring over the past few years is tremendous. Technology is growing in many ways. One area where there has been a lot of growth is with the Internet of Things (IoT). One type of this device is the video doorbell, which allows individuals to monitor their front door even when they are not home. IoT devices have security risks just like any other type of technology. This work will be looking at the Ring™ video doorbell to determine if an attacker could determine if someone is home based on the network traffic from the video doorbell.

ROBOTIC PROCESS AUTOMATION: *P. Rutner, J. Pridmore, J. Godin, F. Williams*

The demand for technical talent has created an estimated shortage of 40 million software developers worldwide (Breux and Moritz 2021, Sloan 2021). As companies attempt to increase their performance and productivity via the use of technology (Vial 2019), the need for technically skilled developers grows more critical. An approach gaining momentum is training and equipping employees from functional areas of the organization with the tools to become 'citizen developers' (Oltrogge, Derr et al., 2018, Baumgarten, Simeon, et al., 2020). These employees use low-code and no-code platforms such as Mendix, UiPath, and many more to create specialized technical solutions. UiPath is a Robotic Process Automation (RPA) software that automates highly manual processes to enable cost savings and free up employees to perform tasks that add value to the organization. RPA is a low code/no code software that has proven to be a technology to help organizations increase efficiency and reduce costs. UiPath is the industry leader in the RPA market and has a solid academic alliance program. Using UiPath to introduce students to RPA for business benefits both faculty and students. RPA provides a means to automate business processes by allowing robots to interact with enterprise systems through a user interface (Santos et al., 2019). RPA can work with production machinery and humans to provide advantages to manufacturing companies by reducing production time, risk, and expenses while improving efficiency and product consistency (Rajawat et al., 2021). RPA enabled by artificial intelligence replaces tasks that people would typically complete and provides tremendous advantages to manufacturing companies, including continuous work on nights and weekends, offering great scalability (Beerbaum, 2021). A wide variety of industries other than manufacturing are also implementing RPA technologies, including banking (Miambo and Iyamu, 2021), agriculture (Micle et al., 2021), and healthcare (Davenport and Kalakota, 2019). How to incorporate low-code tools, such as UiPath RPA, into business school curricula is a relatively unexplored research area. With RPA being a relatively new emerging technology, few articles describe methods for teaching RPA to information systems students. Our study seeks to answer the following research questions.

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SECURITY AND PRIVACY ISSUES IN THE NFT MARKET: *Y. He, W. Li, L. Liu*

Non-Fungible Token (NFT), a new blockchain technology application for commodifying digital objects such as photos, videos, and audio, is now widely traded in the digital market. Thanks to the properties such as decentralization, transparency, immutability, and fault tolerance provided by the Blockchain infrastructure, the NFTs with non-fungible aspect makes each token unique and can unify each digital object with unique digital asset's ownership certificate (Wang et al., 2021). Moreover, with a smart contract, the originator of the NFT can earn subsequent royalty fees when the NFT is exchanged in the future. These attributes make the NFT a promising protection and exchange solution for digital intellectual property. As the applications of NFT have become involved in more and more industries, such as gaming, arts, collectibles, and metaverse, the NFT market has drawn enormous attention worldwide in recent years. It is estimated that the overall value of the NFT market is around \$16 billion and will rise to \$80 billion by 2025 (Canny, 2022). On the other hand, the technologies and ecosystems of NFTs are pre-mature. NFTs are currently able to be attacked and stolen through phishing and scams (Wilson et al., 2022). Moreover, due to a lack of industry-wide cooperation, unforeseen errors or bugs on one platform are often not well documented and shared with other platforms. This lack of synergy leads to disastrous losses for platform users time and time again. Besides, since the underlying anonymous distributed related technologies are new and evolving fast, it is not as user-friendly or intuitive for many people, leading to more user errors and unwanted results. Although NFTs have a tremendous impact on the current decentralized markets, research on security and privacy issues in the NFT market is still limited and in a very early stage. This study aims to (1) summarize the existing solutions and applications of the NFT market; (2) explore the potential challenges related to security and privacy of NFT market; (3) create a clear detailed framework classifies the risk in the NFT market into three different layers and covers eight major threatening scenarios. The findings of this paper can be utilized by investors, platform managers, and governors to better understand and prevent illicit activities.

SECURITY BURNOUT AND SECURITY POLICY COMPLIANCE INTENTION: *S. Kim, K. Marett, M. Fugate*

Despite continual investment by companies into security training and infrastructure, an organization's own employees continue to be the weakest link in protecting information security, raising the question of whether more security measures are needed to address this problem. While information security is important for protecting an organization's assets, having an excessive number of security measures may lead to "security burnout" or "security fatigue" among employees, which can potentially increase the risk of security negligence. Security burnout refers to a state of weariness or reluctance to engage with information security (Stanton et al., 2016). Individuals who have been exposed to a particular control or measure repeatedly may become fatigued by security (Furnell & Thomson, 2009). Security fatigue among employees can significantly undermine an organization's efforts to achieve security and may be

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brought about by increasing the number of security measures, providing unclear and complicated security-related messages and education, and ignoring employee feedback and participation in the development and implementation of security policies. Previous research has explored IT-related burnout, its antecedents, and potential consequences, primarily borrowing from the job burnout concept from the Organizational Behavior discipline (Chen, et al., 2020; Choi et al., 2018). Because of its importance of predicting job performance such as job withdrawal, productivity, or effectiveness, job burnout has been an actively researched topic in management. Management scholars have found explanatory value in the job demands-resources (JD-R) model (Demerouti et al., 2001). In turn, this research-in-progress uses the JD-R model and antecedents from qualitative research on security burnout (Cram et al., 2021) to better understand how to improve employees' security compliance related behavior. To measure demand, we adapt scales such as work impediment, appropriateness, understandability, etc. To measure resource, we adapt scales such as security education and training awareness, participation in security decision making, etc. Previous studies have mainly focused on ways to improve employees' security behavior without considering potential negative effects of excessive measures. By focusing on the consequences of excessive security measures which cause security fatigue to employees and examining ways to improve their security-related behavior, this study aims to make a valuable contribution to the field of security research. Further study will empirically explore security burnout and its negative consequences such as deviant security behavior.

SKILL NETWORKS FOR CAREER COMPETITIVE ADVANTAGE: *J. Mansour, C. Van Slyke, K. Taylor*

A successful information systems (IS) career requires ongoing learning. Although this can be said of many careers, the need for constant learning is pronounced in IS. New technologies, methods, languages and other tools emerge on a seemingly constant basis. Yesterday's knowledge and skills are not sufficient for tomorrow's success. This need for constant learning is both blessing and curse for IS professionals. While ongoing learning is burdensome to professionals' time, energy, and effort, it also leads to high levels of a meta-skill - knowing how to learn – which can be leveraged to create an ongoing career competitive advantage using an approach we call skill networks. Skill stacking, which is the pursuit of complementary skills to create a distinct skill portfolio, is a method for creating career competitive advantage (Deards & Lo, 2019). The basic logic behind skill stacking is that while it may be highly unlikely for an individual to be among the best for any single skill, it is feasible for them to be among the best with a particular combination of skills. Despite the current view that skill stacking is new, the idea is not new in IS, although skill acquisition often occurs on a relatively ad hoc basis. A focused strategic view of skill stacking may be more effective for developing career competitive advantage. We can apply Porter's (1996) activity system idea to the basic notion of skill stacking to form a theoretically sound method for creating ongoing career competitive advantage. Porter's thesis is that competitive advantage comes from creating systems of activities that fit together well, are (ideally) self-reinforcing, and as

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a composite are unique and difficult to imitate even if the individual activities are common and/or imitable. We contend that career competitive advantage can be analogously created and sustained, by building networks of skills that complement one another and, in total, meet the criteria of value, rarity, and inimitability necessary for competitive advantage. For example, an IS professional may gain skills in Python coding, data visualization, and persuasive communication; although many individuals may have strong skills in any one of these areas, few will be sufficiently skilled in all of them. When skill networks are constructed such that they are valuable to employers and adaptable to emerging opportunities, the networks provide a relatively sustainable career competitive advantage. We contend that IS programs should embrace the idea of skill networks and position their graduates to be able to create sustainable career competitive advantage through skill networks. We will discuss how the idea differs from the current conception of skill stacking and from other career models (e.g. T-shaped professional), and how skill networks provide sustainable competitive advantage. Additionally, we will discuss how IS programs can enable their students to build meta-skills and knowledge that will allow them to leverage well-designed, distinctive skill networks. We will also describe how micro-credentials can be used to communicate skill networks to employers. Finally, we will provide a preliminary research agenda related to skill networks.

SMALL BUSINESS SUPPLY CHAIN INFORMATION SYSTEMS: A REVIEW OF THE LITERATURE ON DIGITIZATION IN THE CONTEXT OF THE COVID-19 PANDEMIC: *A. Osborne, A. Avery*

Small businesses are essential to the American economy. They provide jobs, increase the nation's GDP, and are known to give back to local communities. These same businesses have been some of the most widely affected entities by the COVID-19 pandemic. Small businesses are still seeking to understand the implications of the COVID-19 pandemic as society enters a new normal and reflects on the lessons learned. One of the lasting implications of the COVID-19 pandemic stems from the disruptions in the global supply chain impacting the way that employees do their work and customers interact with the product and services that they consume. As a result of the COVID-19 pandemic, small businesses across a variety of industries were forced to engage in the digital transformation of their supply chains in real-time to further their survival. A supply chain information system can be defined as an information system that facilitates the connections and flows among one or more partners, producers, wholesalers, retailers, or customers. In this research in progress, we conduct a systematic literature review to better understand, through existing research, the evolution in the digitization of supply chain information systems for small businesses amid the COVID-19 pandemic context. From the literature review framework, we derive distinct, salient themes from existing research surrounding small business digitization in the periods before, during, and after the COVID-19 pandemic. Before the COVID-19 pandemic, academic research themes focused on small and medium enterprises' digital readiness. Academic research themes during the COVID-19 pandemic discussed small business rebound through the pandemic, challenges and opportunities of digitization,

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as well as considerations for the use of emerging technologies surrounding the internet of things (IoT), artificial intelligence (AI), and Industry 4.0. During the period post-COVID-19 pandemic, themes focused on the industry 5.0 movement, digital enterprise management, using digitization to work through the lasting supply chain disruptions, remote work, and sustainability through digital transformation. We also examine the literature for evidence that the COVID-19 pandemic played a role in accelerating the digitization of small business supply chain information systems and missing themes such as supply chain cybersecurity risk management.

SYSTEMATIC LITERATURE REVIEW AND RESEARCH MODEL TO EXAMINE DATA ANALYTICS ADOPTION IN ORGANIZATIONAL CONTEXTS: *A. O'Neal, K. Umapathy*

Data analytics offers a wide variety of opportunities across all industries enabling improvements in all business operations. Data analytics adoption has several associated complexities making it cumbersome and challenging for organizations. In particular, small and medium businesses (SMB) and nonprofit organizations lag behind data analytics adoption, even though they are crucial for the economy and would benefit most from data-driven decisions. This paper aims to identify factors that influence data analytics adoption by organizations. We conduct a systematic literature review to identify articles relevant to data analytics adoption studies performed using survey methodology. We synthesize literature review results to propose a research model to investigate data analytics adoption in small & medium businesses and nonprofit organizations. The proposed research model was developed primarily based on Technology Organization Environment (TOE) framework, combined with other factors relevant to data analytics adoption found in the literature. The research model investigates the influences of data analytics, organization, and environment characteristics on data analytics adoption by SMBs and nonprofits. We hope that further progress with this research will provide insights into helping SMBs and nonprofits adopt data analytics technologies.

THE CELEBRITY FACTOR: MODELING THE IMPACT OF INFLUENCER STATEMENTS ON THE PUBLIC PERCEPTION OF COVID-19 VACCINES: *A. Shah, S. Shah*

Online social networks rapidly propagate information and opinions expressed on such platforms can influence others' decisions. These platforms were widely used during the COVID-19 pandemic, and many celebrities shared their opinions about the vaccines developed against the virus. Most encouraged vaccination, but many were skeptical about the vaccines' safety and efficacy. This study modeled the impact of eight influencers' statements on the public sentiment toward COVID-19 vaccines. Sentiment is measured for 2 million vaccine-related tweets, time-series models are used to model the influencers' impacts, and Bayesian analysis of each model's predictions was used to estimate impacts. The results found that influencers who encourage vaccination tend to increase the number of "pro-vaccination" tweets, while influencers sharing "anti-vaccination" messages are prone to unstable effects (sometimes leading to fewer anti-

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vaccination tweets). This study provides insights into the complex issue of vaccine hesitancy and may inform public health strategy.

THE EFFECT OF HOMOMORPHIC ENCRYPTION ON VOTERS' PERCEPTIONS OF TRUST ON ELECTION SYSTEMS: *J. Kaufman, M. Lapke*

Over the last few years, election integrity has become a pivotal topic of discussion in popular media and political circles (Shanahan, 2023; Reimann, 2022). The causes for this have been diverse and might stem from propaganda, public perception, the 24-hour news cycle, or partisan messaging. Regardless of the cause, ensuring the results are accurate is critical to beginning the counter message that elections do indeed have integrity. Ensuring the voting machines are secure and getting voters to perceive the machine as secure is believed to play a big role in the security of US elections. One potential measure for securing the machines is the use of homomorphic encryption. This research continues work (Kaufman and Lapke, 2022) that examines this phenomenon of perceptions of election security. Qualitative data was collected to validate and support the quantitative data collected in prior research.

THE IMPACT OF AN INFORMATION SYSTEMS CURRICULUM ON CRITICAL THINKING IN A BUSINESS COLLEGE: *J. Wynekoop, K. Nakatani*

Critical thinking has been recognized as important in information systems curricula, yet there is little published research objectively assessing how it can be most effectively taught. This paper presents the results of an exploratory study of the impact of a curriculum designed to teach critical thinking within the information systems discipline. Additionally, the impact of the curriculum on students' self-evaluation of their own critical thinking skills is demonstrated.

THE PERCEPTION OF PROJECT MANAGEMENT SKILLS FOR EFFECTIVE PROJECT MANAGEMENT AMONG STUDENTS: *M. Cuellar, M. Tabatabaei*

Project management (PM) is a perennially important subject among practitioners and in academia. It is particularly important in the fields dealing with the built environment such as Computer Science (CS), Software Engineering (SE), Information Systems (IS), Library Science (Kinkus, 2007) and Information Technology (IT). The steady increase in IT project investments has continuously increased the importance of PM skills as billions are spent on IT projects in the US each year. PM skills are necessary and contribute to reducing IT project failures. Historically, the demand for project managers has been strong and demand has been increasing (Project.Management.Institute, 2017). Given this strong demand, it is important that academia continually develop the capability to teach project management. However, which skills are important for success in a project manager has not received much attention. Relatively few studies have been undertaken to establish which skills are required in a project manager and the relative levels of importance of those skills. It is important to understand the perception of the skills imparted to the students to ensure that the right skills are taught and given the proper emphasis in the project management course. They should also ensure that these same

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levels of importance are imparted to students in their PM class. This proposed research is part of a long-term study comparing the perceptions of professionals, academics and students as to the skills needed to be successful as a project manager. This research takes a longitudinal view of how students view the project management profession and relative importance of various project management related skills to see how their perception has evolved over time. To identify these student perceptions, students in a project management course were surveyed over several semesters. They were asked to give their perceptions on the skills needed to succeed as project managers and what they perceived as the appropriate traits needed. Separate studies will examine the perceptions of practitioners and academics. It also assesses whether the academic project management class is providing those skills to students and giving them the appropriate impartation of the importance of those skills and of project management. The perceptions of students about project management and the skills needed to become a successful project manager will be compared with the practitioners and academics in subsequent research. The practical implication of this research program is to design a more effective PM course.

THE USE OF ADVANCED TECHNOLOGIES IN GOVERNMENT TO PROMOTE THE ETHICAL GROWTH OF PEOPLE: *M. Cuellar*

Digital Transformation, like Business Process Reengineering, seeks a radical change of processes within organizations. Digital Transformation however is different in it seeks to use advanced information technology, such as artificial intelligence, to empower the revised processes in which technology replaces human actors in performing functions. This has become major effort within governmental organizations. While governments had slowly moved to adopt such technologies, the COVID-19 restrictions demonstrated the ability of these technologies and driven a widespread interest on the part of citizens to have these technologies implemented. Governments are therefore seeking to not just “do digital” but “be digital”. This move toward increased use of advanced technology creates new ethical challenges for governmental organizations. Implemented incorrectly, we could be headed in the direction of several different dystopian potential futures predicted by science fiction such as dehumanized people living under the control of technology (Logan’s Run), humans merged with and under control of technology (Star Trek Borg), near eradication and enslavement of humans (The Matrix), a robot uprising (I Robot, Terminator, Colossus: the Forbin Project). While none of these potential futures is anywhere near to being realized, it is necessary now to begin the conversation around how advanced technologies will be employed. The question is how can we implement technologies such as AI, IoT, and data analytics in government such that government becomes more efficient and effective while preserving our essential humanity and dignity? This paper examines how digital transformation of governmental organizations can ethically be done through the lens of a virtue ethics-based approach which seeks to ensure that as our society transforms through the use of information technology, we can retain our humanity and even flourish as people. In the paper, we examine the nature of ethics and virtue ethics, and

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the role of government in supporting individuals in pursuing ethical development. Then we examine various technologies and how they could be implemented as part of a digital transformation of government with their potential impact on their ability to live as fully functioning humans and those avoid the dystopian futures of science fiction. We conclude that virtue ethics teaches us that we need to implement such advanced technology within government in a way that is anthropocentric, where technology exists to support humans and is under the control of humans; provides support for basic human rights such as those articulated by the UN Declaration of Human Rights (United Nations, 1948) so that humans can have the freedom to pursue their goals and experiment with their lives within a stable society; and digital transformation of government should be not used if it would result in the dehumanization of people through the short circuiting of their moral development or reducing humans to the servants of machines. Rather, these technologies should be used to extend and enhance human capabilities to allow humans to be able to accomplish more and to advance in becoming fully human.

TRANSFER LEARNING FOR COVID-19 IMAGE CLASSIFICATION USING LIGHTWEIGHT ARCHITECTURES: A SYSTEMATIC REVIEW: *R. Godasu, D. Zeng, K. Sutrave*

Covid-19 has had a far-reaching influence on almost every aspect of everyday life. Deep learning techniques utilizing Chest CT images are currently proving to be significant resources in detecting Covid-19 cases. While standard CNN models have been utilized by various studies, a research stream focusing on Lightweight architectures is emerging. These compact models facilitate bringing the Covid-19 classification on Tablets and mobile phones, supporting healthcare professionals to rapidly identify the Covid-19 positive cases. We identified that the most used LWAs are MobileNetV2 and MobileNet for Covid-19 MIC. Both feature extraction and fine-tuning are extensively studied TL types. While dataset scarcity still exists X-ray images are mostly preferred due to cost-effectiveness and portability over CT images. Finally, we propose a truncated version of an ensemble model to be the future direction of our study.

VALUE CO-DESTRUCTION IN IT SERVICE ECOSYSTEM DRIVERS AND OUTCOMES: *M. Heidari*

IT service is a critical element of visionary organizations. It plays a crucial role in creating value and supporting businesses in achieving their goals. Despite the intense efforts to substantiate the value-creation capability of IT services, most research in the area is focused on the positive aspects of IT service value and ignores the importance of investigating the value destruction aspects of such services to eliminate barriers to IT service betterment. Co-destruction of IT service value is not sufficiently investigated. Hence, the aim of this research is to add to the understanding of IT service value co-destruction by developing a framework for IT service value co-destruction. The research follows an interpretive approach to building a framework based on a case study and grounded theory technique in an educational institution. The findings reveal value co-destruction drivers and outcomes at the IT service ecosystem's micro, meso and macro levels. This research is in progress.

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WHAT ARE THE DETERMINANT VALUES SOUGHT BY USERS OF SOFTWARE?: *A. Kakar, A. Kakar*

Using a grounded theory approach, we identified in round 1 of our study (Kakar, 2020) presented at a top conferences six types of values derived users of software: Utilitarian Value, Hedonic Value, Social Value, Quality Value, Epistemic Value and Psychological safety. In this round 2 of the study, we identify which of these six values are determinant values, that is those values which are not only important to the online shopper but are also the ones in which differentiates the software product or application. By identifying the determinant values and building only those relevant features into their software, software development organizations can economically enhance the behavioral intention to use and the decision to purchase or download the software in their favor.

WILLINGNESS TO DISCLOSE IN FINTECH: A MULTIDIMENSIONAL DEVELOPMENT THEORY PERSPECTIVE: *D. Oliver*

Though consumers believe in the benefits of financial technology (fintech) applications, concerns for their information privacy persist. Fintech consumers' information privacy concerns, compounded by the increasing number of fintech data breaches, make them less likely to share their personal information. Scholars have used the privacy calculus framework to examine the tension between information privacy concerns and willingness to disclose personal information. However, the privacy calculus framework is only one subdimension of the multidimensional development theory (MDT). While scholars acknowledge the MDT as the theory that generated the privacy calculus framework, the MDT has yet to receive adequate attention in IS literature. This study uses the MDT to investigate the impact of information privacy concerns on willingness to disclose personal information in fintech.

WORK TACTICS IN HYBRID WORK ENVIRONMENT: A GENDER PERSPECTIVE: *G. Dhillon, K. Smith, J. Kaur, S. Dhillon*

In recent years, there has been a resurgence in interest to understand how various individuals traverse the hybrid work environments, particularly as exacerbated during the COVID-19 pandemic. While the practice of working-from-home and telework has been around for some time now, researchers and practitioners have largely studied it in the context of increasing productivity (Tremblay, 2002) and work-life balance (Leung and Zhang, 2017). However, there is a limited discussion on the differences in gender perspectives around hybrid work. Work-life balance is a much sought-after state of being which is of immense interest to researchers, organizations and individuals alike. Although prior scholars have focused on understanding the different factors and characteristics of work-life balance, the mixed results of prior research call for further investigation on the work tactics that could help hybrid workers balance their work and family demands. Additionally, the differences between men, women and LGBTQ+ community members in terms of using these work tactics under uncertainty pressures has not received much attention. Using the Boundary Theory and the concept of Improvisation, we investigate two main research questions: 1) what are the different preferences between men, women and LGBTQ+ for work tactics in a hybrid

Conference Abstracts

environment? and 2) how do men, women, and LGBTQ+ traverse the hybrid workspace? Our proposed conceptual framework builds on the interactions between boundary work tactics and improvisational work patterns. The study uses Walsham's (1993) interpretive approach to examine the preferences of the gender groups in three information intensive companies based in the US. Our research contributes to both theory and practice. The two main theoretical contribution are: first, we contribute to the literature on hybrid work and work-life balance by showing that there are significant differences between preferences of men, women and LGBTQ+ regarding how they structure their work tactics. Second, we contribute to the literature by suggesting that men, women and LGBTQ+ improvise around uncertainty pressures to define their work tactics. Practically, this research can help in policy formulation for hybrid work scenarios based on gender preferences to improve productivity and performance.

Conference Map

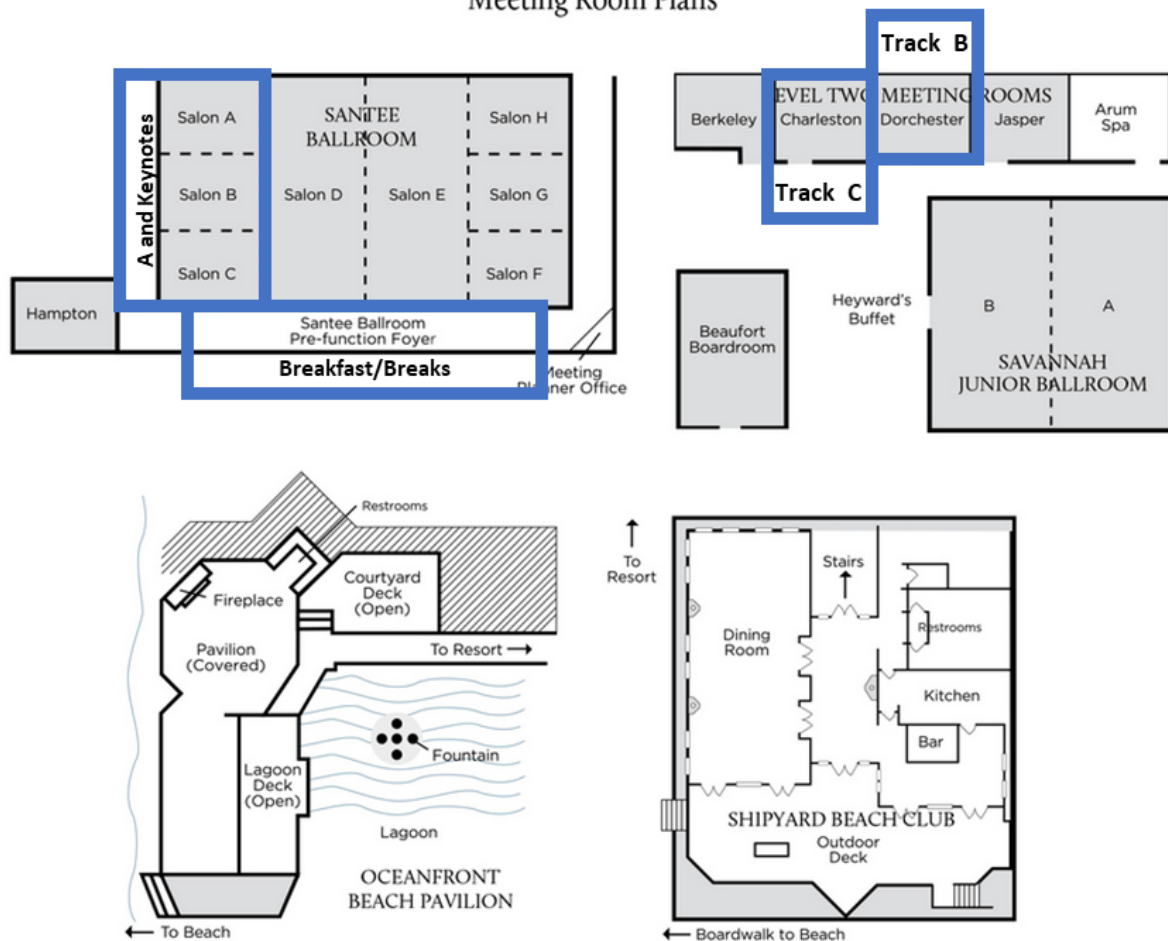
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Meeting Room Plans



130 Shipyard Drive, Hilton Head, SC

Registration: Lobby

Keynote Addresses: Salon ABC (A)

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