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9th International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences


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Preface

This book includes contributions from four AHFE affiliated conferences, Human Factors, Software, and Systems Engineering, Artificial Intelligence and Social Computing, Human Side of Service Engineering and Human Factors in Energy. The book is divided into seven main sections:

Section 1: Software and Systems Engineering Applications  
Section 2: Advancing Smart Service Systems and The Contributions of AI and T-Shape Paradigm  
Section 3: Innovations in Service Delivery and Assessment  
Section 4: Artificial Intelligence and Social Computing  
Section 5: Social Network Modeling  
Section 6: Human Factors in Energy Systems: Nuclear Industry  
Section 7: Applications in Energy Systems

The discipline of Human Factors, Software, and Systems Engineering provides a platform for addressing challenges in human factors, software, and systems engineering that both pushes the boundaries of current research and responds to new challenges, fostering new research ideas. The first section focuses on software and systems engineering applications. In this book, researchers, professional software and systems engineers, human factors and human systems integration experts from around the world addressed societal challenges and next-generation systems and applications for meeting them. This book focuses on the advances in the Human Factors, Software, and Systems Engineering, which are a critical aspect in the design of any human-centered technological system. The ideas and practical solutions described in the book are the outcome of dedicated research by academics and practitioners aiming to advance theory and practice in this dynamic and all-encompassing discipline. The books address topics from evolutionary and complex systems, human systems integration to smart grid and infrastructure, workforce training requirements, systems engineering education and even defense and aerospace. It is sure to be one of the most informative systems engineering events of the year.
If there is any one element to the engineering of service systems that is unique, it is the extent to which the suitability of the system for human use, human service, and for providing an excellent human experience has been and must always be considered. Section two addresses topics related to Advancing Smart Service Systems and The Contributions of AI and T-Shape Paradigm, and section three covers topics related to Innovations in Service Delivery and Assessment. Sections two and three focus on the Human Side of Service Engineering (HSSE 2018) which took place at the Loews Sapphire Falls Resort, Universal Studios Orlando, Florida, from July 21 to 25, 2018. The AHFE HSSE 2018 conference was co-chaired by Louis E. Freund and Wojciech Cellary.

As Artificial Intelligence (AI) and Social Computing (SC) become more prevalent in the workplace environment and daily lives, researchers and business leaders will need to address the challenges it brings. Roles that have traditionally required a high level of cognitive abilities, decision making and training (human intelligence) are now being automated. The AHFE International Conference on Human Factors in Artificial Intelligence and Social Computing (AISC) promotes the exchange of ideas and technology, which enables humans to communicate and interact with machines in almost every aspect. The recent increase in machine and systems intelligence leads to a shift from interaction to a much more complex cooperative human–system work environment requiring a multidisciplinary approach. Section four addresses topics related to Artificial Intelligence and Social Computing, and section five focuses on Social Network Modeling.

Human Factors in Energy focuses on the Oil, Gas, Nuclear and Electric Power Industries and aims to address the critical application of human factors knowledge to the design, construction, and operation of oil and gas assets, to ensure that systems are designed in a way that optimizes human performance and minimizes risks to health, personal or process safety, or environmental performance. The conference focuses on delivering significant value to the design and operation of both onshore and offshore facilities. Sections six and seven address topics related to Human Factors in Energy Systems: Nuclear Industry and Applications in Energy Systems.

Each section contains research papers that have been reviewed by members of the International Editorial Board. Our sincere thanks and appreciation to the board members as listed below:

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