The 19th IEEE International Symposium on High Assurance Systems Engineering (HASE2019)
Jan.3-5,2019
Hangzhou, CHINA

Theme: High Assurance Systems Engineering via Data Analytics

A huge wealth of data exists in various system design, development, integration and evolution lifecycle including requirements, architecture design models and specifications, risk/issue reports, traceability/dependency matrices, user feedback, forum discussions, and so on. Data plays an essential role in modern system development and system-of-systems (SoS) integration, because insights about the quality of systems and SoSs as well as the dynamics of system design and development are usually hidden in tremendous volumes of data generated daily in the system lifecycle.

Due to the increasing complexity and scale of systems and SoS, it is of paramount importance to elicit and understand data relationships in multi-disciplinary engineering contexts to troubleshoot issues, and drive the decision-making process to assure system quality (reliability, availability, dependability, maintainability, security, privacy, safety, traceability, trustability, performance, etc.). System development lifecycle collaborations help link data and engineering tools to continuously engineer a system and SoS of high assurance.

HASE 2019 will focus on addressing the challenges and proposing methods, techniques, best practices, and tools to support data elicitation, visualization, sharing, and integration across engineering disciplines in effective and efficient data analytics for high assurance systems engineering including but not limited to cyber-physical systems, cloud systems and Internet of Things, software-intensive systems, embedded and mobile systems, distributed and parallel systems, autonomous systems, healthcare systems, and so on.

CALL FOR PAPERS

Researchers and practitioners are invited to submit original work to **HASE 2019**. All submissions must be written in English and will be reviewed by at least three members of the Technical Program Committee. The **HASE 2019** program will include the following tracks:

Track A: Theoretical foundations of assurance (8 pages, including all materials e.g. references, figures, tables and appendices)
Contributions under this track will focus on methods and techniques that aid in designing, modeling, validating and evolving complex systems and SoS.

Track B: The practice of assurance (8 pages)
Contributions under this track will focus on methods that have been applied in the real-world design, model, development, integration or evolution of high assurance systems, or have been tested in realistic testbeds.

Track C: Tools (4 pages)
Contributions under this track will focus on new or existing tools and their effectiveness in designing, modeling, developing, integrating or evolving high assurance systems.

Track D: Fast Abstract and New Ideas (2 pages)
Short papers under this track will focus on new ideas producing high assurance systems and SoS. Such ideas might not have undergone a rigorous test but are novel enough and worthy of further discussion.

TOPICS OF INTEREST include, but not limited to, the following

Data Analytics for High Assurance Systems Engineering
Data Analysis and Visualization Methodologies
Data Analytics for High Assurance System Development and Evolution
Data Analytics for System-of Systems
Big Data in Cyber-Physical Systems
Big Data in Cloud Systems
Big Data in Security and Privacy

Development and Understanding
Agile System Development Methods
Model-based Systems Engineering
Requirements for High Assurance Systems
Formal Methods for High Assurance Systems Engineering
Domain Specific Languages
System Verification and Validation
Software Analysis and Visualization
High Assurance Systems Development

Platforms, Architectures and Design
Cyber-Physical Systems
Cloud Computing and Internet of Things
Distributed Networks and Systems
Embedded, Mobile, and Real-Time Systems
SCADA Systems and other Critical Infrastructures

System Operation and Behavior
Emergent Behavior and Adaptablity
Safety, Vulnerability, and Fault Tolerance
Reliability, Robustness, and Resilience
Modeling and Simulation

Security and Privacy
Healthcare Systems Security and Privacy
Software Security Assurance and Assessment
Cyber security Issues and Challenges

Emerging Systems of High Assurance
Autonomous Systems and Robotics
Self-Adaptive Systems
Large-scale Systems Integration
Space and Communication Systems
Energy Management and Power Grids
Human-Systems Integration

SUBMISSION GUIDELINES
Submissions must be formatted according to the IEEE formatting guidelines and submitted through EasyChair. Submissions that exceed the page limits as specified above, outside the scope of the symposium, or do not follow the formatting guidelines may be rejected without review. At least one author of each accepted paper is required to pay the full registration fee and to present the paper at the conference.

All accepted papers will be published in the electronic proceedings by the IEEE Computer Society, indexed through INSPEC and EI Index, and included in the IEEE digital library.

IMPORTANT DATES (AoE, UTC-12)
Submission deadline: **September 9, 2018**
Acceptance notification: **October 15, 2018**
Camera-ready due: **November 9, 2018**
Conference: **January 3-5, 2019**

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