Call for Papers

First International Workshop on Verification and Validation of Internet of Things

co-located with ICST 2018

9th of April 2018, Västerås - Sweden

Abstract

Internet of Things (IoT) are unarguably considered as the next revolution of Internet. IoT are often viewed as a network of connected physical devices and systems capable of sensing and actuating the physical world, in addition to communicating with other devices and systems via information networks.

In the most sophisticated form, IoT must be capable of exhibiting self-* behaviors (e.g., self-configuration, self-healing, and self-adaption) in response to changes in the context of the physical environment without requiring any human intervention. The software is the key enabler for such flexibility and advanced features in IoT. The tight integration of the cyber capabilities of the corresponding physical devices with the physical world brings novel verification and validation challenges.

The VVIoT workshop will be a forum for academics, industrial researchers, developers, and practitioners to discuss challenges and advances in Verification and Validation of Internet of Things.

Topics (not exhaustive)

- Testing techniques for IoT systems
- Fault Taxonomies for IoT systems
- Tools and infrastructures for IoT testing
- Simulation environments for IoT systems (e.g., how to simulate physical inputs from the environment)
- Unit, integration and system testing for IoT systems
- Model-based testing of IoT systems
- Test models for IoT systems
- IoT testing in several application domains (smart cities, e-health, smart buildings, transportation, industrial automation, etc.)
- Formal Verification techniques for IoT systems
- Testing as a service for IoT systems
- Testing heterogeneous IoT systems
- Testing time constrained IoT systems
- Extra-Functional testing of IoT systems including but not limited to Security, Privacy, Safety, and Robustness
- IoT middleware testing
- IoT infrastructure testing
- Test optimization including test minimization, prioritization, test selection for IoT Testing
- IoT interoperability testing
- Empirical evaluations on any of the above topics

Important dates

Submission: **12th of January 2018**

Notification: **19th of February 2018**

Camera Ready: **28th of February 2018**

Organising committee

- **Shaukat Ali**, Simula Research Laboratory, Norway
- **Tao Yue**, Simula Research Laboratory, Norway
- **Rui Abreu**, Instituto Superior Técnico (IST) of the University of Lisbon, Portugal

Submission format

Three types of papers can be submitted to the workshop, in addition to European/National Projects Presentations:

- **Full papers (10 pages):** Full research reporting new ideas with proper validation. Papers reporting extensive empirical evaluations on the above-mentioned topics are also welcomed.
- **Short papers (6 pages):** Research in progress, tools, experience reports, new ideas, applications and lessons learned in industry.
- **Extended Abstract (1-2 pages):** Research in progress, tools, experience reports, new ideas, applications and lessons learned in industry.
- **European/National Project presentations (in IoT testing verification and validation, e.g. H2020):** An abstract for a presentation on a European, National, or International Project on the above mentioned-topics. Note that abstracts will not be published.

Submission link: https://easychair.org/conferences/?conf=vviot2018