Ph.D. Position Announcement

Synopsis of the project:

One funded Ph.D. position is available for the Spring 2020 session in EECS department at the University of Missouri, Columbia, USA under the supervision of Prof. Khaza Anuarul Hoque. The research project will focus on the development of formal verification-based techniques for designing resilient, safe and intelligent cyber-physical/IoT-based systems (target application domain: smart-energy, smart factory, automotive systems, etc.). Indeed state-of-the-art machine learning algorithms have a great prospect for predictive control/analytics of such systems. However, for safety-critical applications certification of dependability is a major concern. Hence, this project will identify the possible cyber-attacks, (mathematically) model them, and will develop formal verification techniques for certifying the safety and trustworthiness of such systems.

About MU:

Established in 1849, the University of Missouri College of Engineering's excellence includes nine disciplines, 130 faculty members, more than 3,300 of the brightest undergraduates on campus and more than 600 exceptional graduate students at the flagship campus of the UM System. Electrical engineering at MU was established in 1884 – the first electrical engineering program in the nation. Located in the heart of Missouri, the College of Engineering at Mizzou operates the University of Missouri Research Reactor, the most powerful nuclear research reactor on a university campus nationwide.

Requirements:

The successful candidate will receive financial support as a Research/Teaching Assistant, and will also be awarded full tuition waiver with subsidized health insurance. Candidates with expertise in one or more of the following priority areas are especially encouraged to apply.

- Excellent academic results in B.Sc/M.Sc. with major in computer science/electrical engineering. Exact admission requirements are available here: https://gradschool.missouri.edu/degreecategory/electrical-and-computer-engineering/
- Strong background in mathematics (e.g. stochastic modeling, Markov chain) is required. Knowledge of formal verification/logic/automata theory (especially, model checking) will be counted as a strong plus.
- Strong programming skills (C/C++, Python) is required. Good understanding of control theory, dynamic programming, machine learning algorithms and optimization techniques are required.

The interested candidates are suggested to send an email (the email address will follow) to Dr. Hoque including the following:
- The email should express your interest and demonstrate how you meet the above-mentioned requirements.
- Curriculum vitae, including list of publications (if any).

Contact information:

Dr. Khaza Anuarul Hoque
Assistant Professor
Department of Electrical Engineering and Computer Science (EECS)
Columbia, Missouri, USA
Email: hoquek@missouri.edu
Web: www.kahoque.com