PhD Student Positions Available

Digital Twin-Enabled System Resilience

PhD student positions (under full scholarship) are available at the Institute of Catastrophe Risk Management (ICRM), Nanyang Technological University, Singapore, for a project to study both the decision support and the operation control interface of the future by creating digital twins to model and simulate interdependent systems. Such an integrated digital twin-enabled analysis is state-of-the-art, as existing literature mostly considers the physical layer and cyber aspects as independent problems. The scope of the research includes the development of information models along with the multi-physics models of the power and/or infrastructure systems to enable the application of digital twin-enabled resilience analysis, and the development of digital twin for vulnerability and dynamic resilience modelling and real-time simulation to improve understanding of the geographical and cyber interdependencies between the cyber, terminal, navigation, utility and infrastructural systems. This project is part of Phase 2 of the Future Resilient Systems research programme (https://frs.ethz.ch/), a collaboration between Nanyang Technological University, National University of Singapore, University of Illinois Urbana-Champaign and ETH Zurich. Students will have opportunities to interact and work with fellow researchers from these institutions housed under the Singapore-ETH Centre in Singapore. The candidate should have a degree in engineering or science and proficient with computers and programming. Interests/experience in data-driven analysis, machine learning, resilience modelling, network theory will be advantageous. Additional requirements for admission to this PhD programme can be found at the following link:

http://gc.ntu.edu.sg/Programmes/IGP/Pages/Admission-Requirements.aspx

Interested candidates should email their CV detailing academic qualifications, language proficiencies and relevant skills/experiences to Prof Law Wing Keung, Adrian (cwklaw@ntu.edu.sg).