



Ph.D. positions in the Cyber Security Education and Research Centre at Dept. of Computer Science, IIIT Delhi. Fully funded by ABB.

CERC@IIIT-Delhi invites applications for fully funded Ph.D. positions. You may check detailed profiles of our faculty members who are looking for interested Ph.D. students. This is part of ABB Ph.D. Fellowship.

1. **Dr. Arun Balaji Buduru** - Usable Security, IoT Security, Reinforcement learning & stochastic planning
2. **Dr. Ponnurangam Kumaraguru, "PK"** - Privacy and security in online social media, Social network analysis, complex networks

Project details:

Adaptive Security for IoT Environments

IoT (Internet of Things), are increasingly being used ubiquitously to vastly improve the efficiency and reduce the cost of critical application areas, such as finance, transportation, defence, and healthcare. Over the past two decades, computing efficiency and hardware cost have dramatically been improved. Emerging trends in successful cyber system breaches have shown increasing sophistication in attacks and that attackers are no longer limited by resources, including human and computing power. Most existing cyber defence systems for IoT systems have two major issues: (1) they do not incorporate human user behavior(s) and preferences in their approaches, and (2) they do not continuously learn from dynamic environment and effectively adapt to thwart sophisticated cyber-attacks. Consequently, the security solutions generated may not be usable or implementable by the user(s) thereby drastically reducing the effectiveness of these security solutions. In order to address these major issues, a comprehensive approach to securing ubiquitous smart devices in IoT environment by incorporating probabilistic human user behavioural inputs is presented. The approach will include techniques to efficiently configure IoT devices through controller device(s), in conformance with the probabilistic human user behavior(s) and preferences, to effectively adapt IoT devices to the changing environment.

Requisite Skills:

1. Strong math skills with handle on Statistics and Probability; and Linear Algebra.
2. Strong analytical and programming skills [preferably in C++ and Python].
3. Proficient skills in handling Big Data

What we expect from you:

1. Good knowledge on basics of computer science topics like Algorithms, Data Structures, and Databases.
2. Perseverance towards his / her own work.
3. Positive attitude.

What you can expect from us:

1. Challenging work and professional environment.
2. Opportunities to learn beyond the project through tasks and interactions with national and international experts.
3. We believe in work hard and play hard.

Selection Process:

1. The applications should be sent before 20th March 2018.
2. The selection will be based on your performance in the interview (online or on-site) as assessed by the committee members.
3. This is a special round and PhD positions are available only with the faculty members mentioned in the advertisement.
4. The interview may be conducted online (if the candidate is not near Delhi or cannot come to Delhi) or on-site. You may also be asked to appear in more than one interviews to assess your suitability for the PhD program.

Application Process:

1. Please upload your CV & SOP at bit.ly/cercphd
2. The applications will be processed as they arrive.
3. More details about the Ph.D. at IIITD can be found at: <https://iiitd.ac.in/academics/phd>