

## RA Positions in Two Cybersecurity Projects

**Saurabh Bagchi**

The Center for Education and Research in Information  
Assurance and Security (CERIAS)  
School of Electrical and Computer Engineering  
Purdue University



Contact: [sbagchi@purdue.edu](mailto:sbagchi@purdue.edu)



## Project 1: Command and Control for Missile Defense

- **What?**
  - Distributed command and control system for intercepting missiles shot at us
  - Project supported by US Missile Defense Agency (MDA)
- **Problem & Solution Approach**
  - Cybersecurity attacks and failures while mission is ongoing
  - We are developing solutions to “fight through” such impairments
- **Requirements**
  - MS or PhD student
  - US citizen
  - Familiar with Matlab programming, network programming
  - Nice to have: familiar with optimization frameworks



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## Project 2: Distributed Intrusion Detection for Enterprise Systems

- **What?**
  - Enterprise systems are subjected to sneaky multi-stage attacks as part of *Advanced Persistent Threats (APTs)*
  - We have to detect them in time and respond to them
  - Supported to Northrop Grumman Corp.
- **Problem & Solution Approach**
  - Current IDSs look at a single point in the system and therefore cannot accurately detect multi-stage attacks
  - We are developing distributed solution based on machine learning-based inferencing to detect such attacks
- **Requirements**
  - MS or PhD student
  - Must: Matlab and python; Desirable: Some machine learning background (Bayes network, etc.)



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**Contact:**

**Prof. Saurabh Bagchi**

**Email: [sbagchi@purdue.edu](mailto:sbagchi@purdue.edu)**

**Subject should have: “RA application for MDA/NGC project”**

**Material available at:**

**Dependable Computing Systems Lab (DCSL) web site**

**[engineering.purdue.edu/dcs1](http://engineering.purdue.edu/dcs1)**



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