

FORCES Post-Doctoral Research Position

Position: FORCES Post-Doctoral Scholar

Location: TRUST Center Berkeley, CA

Recruitment Period: 9/1/2013 through 7/31/2014

Description

Foundations Of Resilient CybEr-physical Systems (FORCES) focuses on the resilient design of large-scale networked CPS systems that directly interface with humans. The project is developing Resilient Control tools to withstand a wide-range of attacks and faults; learning and control algorithms which integrate human actions with spatio-temporal and hybrid dynamics of networked CPS systems; and model-based design to assure semantically consistent representations across all branches of the project. Operations of networked CPS systems naturally depend on the systemic social institutions and the individual deployment choices of the humans who use and operate them. The presence of incomplete and asymmetric information among these actors leads to a gap between the individually and socially optimal equilibrium resiliency levels. The project is developing Economic Incentive schemes to reduce this gap. The core contributions of the FORCES team, which includes experts in control systems, game theory, and mechanism design, are the foundations for the co-design of RC and EI schemes and technological tools for implementing them.

The initial appointment is 100% time for one year, with the possibility of renewal for a second year, dependent upon job performance and funding. Starting salaries are typically in the range of \$50,000 to \$65,000 per year and commensurate with qualifications and experience. The University of California offers a comprehensive benefits package including medical, dental, vision, accidental death and dismemberment, short term disability, voluntary long term supplemental disability and life insurance.

Primary Responsibilities:

- Working with Berkeley Faculty and staff, and with collaborators at other institutions, to develop research topics in cyber-physical systems (smart grid, air traffic,...) , with a focus on resilient control and economic incentives;
- Researching and writing papers of publication quality, under the direction of faculty and staff;
- Possible interdisciplinary collaboration on complex issues at the intersection of computer science, electrical engineering, economics and policy;
- Assisting Center staff in organizing and running one or more workshops and/or conferences during CPS Week;
- Speaking at conferences, workshops, and to the funding agency about research initiatives;
- Assisting with other necessary aspects of conference, workshop, and report production.

Qualifications:

- Completed all requirements for a Ph.D.;
- Excellent research, analytical and writing skills;
- Excellent communication and interpersonal skills;
- Organizational skills;
- Self-starter able to prioritize and function both independently and collaboratively;
- Willingness to travel nationally and internationally.

Application Materials

- Curriculum Vitae: Your most recently updated C.V.

- Cover Letter: Your interest in Cyber Physical Systems and how your background/skills/experience relate to this position
- Academic Transcripts
- References: 3 references required (contact information only)

Please send application materials to Aimee Tabor: aimeet@eecs.berkeley.edu. Application Materials must be received 11:59PM *September 15, 2013*.

Minorities and women are encouraged to apply. The University of California is an equal opportunity/affirmative action employer.