**Position:** Postdoctoral researcher

**Schools:** Boston University (primary site), Northeastern University

**Location:** Boston, MA, USA

**Length of Appointment:** The position is for one to two years.

**Project websites:** Official website. National Science Foundation Award.

**Application deadline:** Review of the applications will start immediately and continue on a rolling basis until the position is filled.

**Overview:** Professors Roberto Tron, Wenchao Li, and Cristina Nita-Rotaru have an immediate opening for a highly motivated individual to conduct research at the novel intersection of cyber-physical system and security. The project centers on the use of physical channels to provide additional layers of cyber-security in multi-agent systems (e.g., quadrotor swarms, automated warehouses). Ideal candidates for this position show a blend of theoretical and implementation skills, are able to work independently, can organize and lead the research activities toward the project goals, and exhibit excellent communication skills (oral and written).

**Duties and responsibilities:** The postdoctoral researcher will be expected to coordinate the development and implementation of security-aware path planning and intrusion detection algorithms based on a combination of formal methods, optimization, and traditional cyber-security. The researcher will work in close collaboration with the three PIs, and will be expected to co-supervise students at both Boston University and Northeastern University. In particular, the postdoc will have the opportunity to interact with faculty in the MechE and ECE departments, and the System Engineering division at Boston University, and with members of the Institute for Cybersecurity and Privacy at Northeastern University. In addition, the faculty will provide career development support targeted to the the particular interests and career plans of the individual.

**Qualifications:** The following is a list of qualifications expected in a successful applicant.

**General:**
- Willingness to work outside of their discipline to accomplish project goals.
- Ability to independently identify and prioritize the different aspects of the project.
- Ability to work in a team, while also taking the lead in the work for the project.

**Technical:** Strong expertise in one or more of the following areas:
- Optimization.
- Formal methods.
- Hardware test beds for robotics.
- Multi-agent system.

Additional knowledge in network and cyber security, or differential privacy is a strong plus.

**Academic:**
- Completed a PhD degree in ECE, CS or related fields.

**Career development opportunities:** The three PIs will devote time to discuss the future career goals of the postdoc. This includes advice, identifying connections, meetings, opportunities, etc. that can be explicitly created during the appointment. In addition, postdocs at Boston

University have access to individual career counseling appointments with the office of Professional Development and Postdoctoral Affairs. The same office and the BU's BEST program also offer a comprehensive workshop schedule that includes both career and professional development events.

**Application submission:** Applications should include a cover letter detailing research interests, CV, links to any relevant prior work, and the contact information for three professional references. Please submit your application by email to Roberto Tron tron@bu.edu, and Wenchao Li wenchao@bu.edu, including the keywords *CPS Postdoc Application* in your subject line (so that your email can be easily identified).

**Additional information on the Boston University Robotics Lab:** The BU Robotics Lab is a 4,000 square feet facility featuring numerous mobile robots instrumented with a wide variety of sensors and communication devices. Our fleet of robots includes a Baxter and a Sawyer from Rethink Robotics, six customized iCreate ground robots, and several quadrotors (including custom builts).

The facility includes a fabrication space, an office space, and a high bay 1000 square foot flight-test arena equipped with an OptiTrack motion capture system for global positioning of both aerial and ground vehicles, and a short-throw multi-projector system for augmented reality visualizations.

**Additional information on Boston University:** Boston University is a leading private research university that enrolls more than 33,000 graduate and undergraduate students in 17 schools and colleges located on the Charles River, Medical, and Fenway Campuses in Boston. With more than 10,000 international students from over 140 different countries, BU ranks among leading universities in international students in the United States and embraces the richness that diverse cultures and ideas bring to a global research institution. BU lies in the Greater Boston area, which hosts sites significant to American culture, history, sports, and many world-class institutions of higher education.

**Additional information about Northeastern University:** Founded in 1898, Northeastern is a global, experiential, research university built on a tradition of engagement with the world, creating a distinctive approach to education and research. Northeaster features a combination of unique instructional opportunities (such as the cooperative education program with 3,100 partners across all seven continents) with top-level, internationally recognized research.

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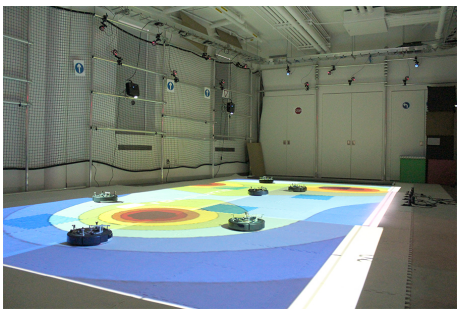
Northeastern University



Robotics Lab
Boston University

Charles River Campus
Boston University