

### Openings for Project Positions

#### **Project objectives**

Research in and development of mechanisms for Quality of Service (QoS) in dense wireless networks, particularly for industrial automation and smart factory deployments. We focus on centralized control & coordination over Wi-Fi to reliably control and manage delay sensitive applications like swarms of mobile robots, uplink cameras, etc. in real-time. Immediate tasks include designing and implementing scalable MAC scheduling frameworks with seamless QoS guarantees across heterogeneous Wi-Fi deployments, and algorithms for network-aware control and application adaptation. Our approach combines algorithm design, simulation-driven evaluation, implementation of the algorithms on embedded platforms, extensive over-the-air experimentation on lab test beds, theoretical analysis of performance, stability, and latency bounds.

#### **Expectations from the Project Engineers**

Graduate or post-graduate degree in ECE (Electrical Communication Engineering, or Electrical and Computer Engineering) or Computer Science. Preference will be given to applicants with the following knowledge and experience.

- Wireless communications and networking
  - Familiarity with the concepts, protocols, and standards, via coursework or project work
  - Interest in analytical understanding of algorithms and their analysis
  - Exposure to basic concepts in machine learning and reinforcement learning
  - The ability to read and understand research articles and standard documents
- Experience in using Matlab, along with familiarity in C/C++/Python
- Working knowledge of the Linux OS and networking software

#### **Advantages of working in a short-term contract position in IISc?**

- Opportunity to work on the frontiers of technology, with state-of-the-art equipment, and acquire industry-relevant skills
- Opportunity to work with leading researchers from IISc
- Combination of systems research, software development, and experimentation
- Opportunities to participate in various lectures and workshops in IISc
- Potential for academic publications, enhancing higher study prospects

#### **Application process:**

A CV, of no more than two pages, including educational qualifications with **GPA/CPA/percentage** (as applicable), **relevant courses taken**, and **relevant projects done**, list of publications and patents (if any) career objectives, name, address, phone number, and email address, should be sent to: [anandsvr@iisc.ac.in](mailto:anandsvr@iisc.ac.in) / [shivamv@iisc.ac.in](mailto:shivamv@iisc.ac.in) with a copy to [sushmas@iisc.ac.in](mailto:sushmas@iisc.ac.in)