Nokia and Bell Labs

Nokia is a global leader in the technologies that connect people and things. Powered by the pioneering work of Bell Labs, our research and innovation division, and Nokia Technologies, we are at the forefront of creating and licensing the technologies that are increasingly at the heart of our connected lives. Nokia Bell Labs is internationally renowned as the birthplace of modern information theory, the transistor, the laser and the UNIX operating system.

Bell Labs Cambridge

Bell Labs' research facility in Cambridge is a leading lab working in the areas of Mobile Sensing and Systems, Applied Machine Learning, Social Computing and Internet of Things research.

We have openings for 2019 summer internships in our Pervasive Systems Department. Interns are being recruited for the following projects.

- **Human Sensing with Earables**
  - Study of the algorithmic and system challenges for a custom earable sensing platform. Focus on behavioural recognition scenarios.
  - **Skills Sought:** Prior multi-modal sensing experience (audio, motion, RF sensors); Strong systems skills.

- **Wearable + Server-less AI for Human Sensing**
  - Study of the algorithmic and system challenges for building a collaborative sensing solution with wearables and edge devices. Focus on human augmentation.
  - **Skills Sought:** Strong systems skills; Backend technologies, Basic ML understanding.

- **Battery-less Wearables for Human Sensing**
  - Exploration of a battery-less wearable sensing platform and applications for physical activity recognitions.
  - **Skills Sought:** Hardware prototyping skills, Embedded SW development; Basic ML understanding.

- **Robustness of Deep Sensory Models**
  - Exploring domain adaptation and generative modelling techniques (e.g., GANs) to improve the robustness and generalisability of deep models to new operating scenarios.
  - **Skills Sought:** Advanced skills in at least one deep learning framework (Tensorflow, Pytorch, Keras); Knowledge of audio and speech processing.

- **Hyper-local Conversational Agent**
  - Developing a context-aware and intermittent commutation framework for opportunistic multimodal interaction with physical space using mobiles and wearables.
  - **Skills Sought:** Mobile/embedded computing, Layer 2+ knowledge on WLANs.

- **On-device Always-on Continual Learning for Personal-Scale Sensory Applications**
  - The project will focus on the development of a lightweight system for embedded/mobile devices capable of processing and adapting to streaming data and tasks locally on-device without offloading.
  - **Skills Sought:** Machine learning; Experience with TensorFlow or PyTorch.

- **Learning Algorithms for Radio Sensing**
  - What benefits can machine learning offer across the wireless stack for human sensing? We want to find out, starting with physical measurements.
  - **Skills Sought:** Machine learning experience; Applied mathematics and statistics. Familiarity with software-defined radio a plus.

Apply Today!
Write to Alessandro Montanari or Fahim Kawsar stating your interest.
alessandro.montanari@nokia-bell-labs.com
fahim.kawsar@nokia-bell-labs.com