SUMMER INTERNSHIP
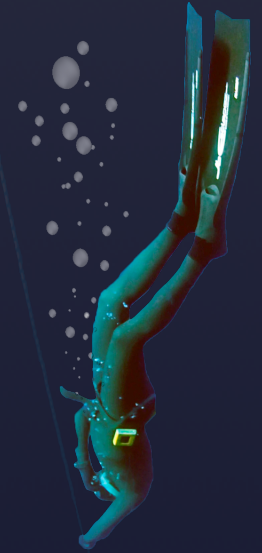
Pervasive Systems Research
Nokia Bell Labs, Cambridge, UK

(w)Earable, IoT, Edge AI

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 and Wearable Sensing and Systems, Applied Machine Learning, Social Computing and Internet of Things research.

We have multiple openings for 2021 summer internships in our Pervasive Systems research department. Students currently enrolled in a PhD or Masters program (Computer Science or Electrical Engineering) are being recruited for the following projects.

MEMORY AUGMENTATION WITH EARABLES
Study of the algorithms and methods for human memory augmentation with earables.
SKILLS SOUGHT: Multi-modal Sensing (audio, motion), Applied ML, Mobile Systems.

COMPUTING AROUND THE EAR
Exploration of the signal processing algorithms with earables to enhance human hearing.
SKILLS SOUGHT: Signal Processing, Acoustic Sensing, Applied ML.

BATTERY-LESS SENSING
Exploration of algorithms and system challenges for battery-less sensing and communication.
SKILLS SOUGHT: Embedded SW, HW Prototyping, Applied ML.

DISTRIBUTED SCHEDULING FOR EDGE AI
Develop and benchmark scheduling algorithms for ML workloads in distributed and heterogeneous edges.
SKILLS SOUGHT: Distributed System, Embedded SW, Applied ML (Deep Reinforcement Learning).

FEDERATED LEARNING FOR EDGE AI
Exploration of algorithms and system challenges for federated learning on edge devices.
SKILLS SOUGHT: Solid understanding of ML, Knowledge of audio and speech processing.

COLLABORATIVE IIoT WITH EDGE AI
Study of the algorithmic and system challenges for building a collaborative sensing solution with wearables and edge devices for IIoT.
SKILLS SOUGHT: Distributed System, Embedded SW, Applied ML.

COMPRESSION & DOMAIN ADAPTATION FOR EDGE AI
Exploration of model compression and domain adaptation techniques (training and inferences) for on-device models.
SKILLS SOUGHT: Solid understanding of ML, Knowledge of audio and speech processing.

SERVICE PLATFORM FOR IIoT
Design and development of a web-scale platform to deploy, manage and upgrade Edge AI devices and services.
SKILLS SOUGHT: Backend Development (NodeJS, Angular/React/Vue), Docker, K8.

Application Deadline: Feb 15, 2021

Given the COVID-19 pandemic situation, the internship period is flexible and open for discussion.

Applicants will be selected on a rolling basis.

Please write to Akhil Mathur (akhil.mathur@nokia-bell-labs.com) or Fahim Kawsar (fahim.kawsar@nokia-bell-labs.com) stating your interest.