

## Sensor Nodes with Machine Learning

Wireless sensor networks are enabled by low-cost, compact, integrated, and low power sensors and radio transceivers. They represent a key technology supporting growth of the internet of things.

Sensor networks find application in many fields including building automation, civil infrastructure monitoring, industrial monitoring, environmental and wildlife monitoring, and health care.

Any of these applications can benefit if decisions can be made in real-time on-device, such that only critical information needs to be relayed. This requires efficient machine learning (ML) models that can be deployed 'at the edge'.

The objective of the project will be to design and implement a set of sensor nodes suited to an application such as air quality monitoring. The focus of the group will be on designing sensor elements and signal conditioning circuits that will be implemented on custom designed printed circuit boards and tested. Depending on the group's background and interest they will attempt to recognize key sensor data patterns using efficient ML models deployed on the sensor node.