Use low-power mm-Wave sensors to detect people, movement and concealed weapons

Goal: to design the detection algorithms for a lightweight, portable and battery operated sensor to assist in anti-poaching exercises in South Africa
Extract Information from Voxel Point Clouds and Regions of Interest
mm-wave Classification Tasks

- Most existing work use Doppler signatures as features
- Some make use of heatmaps
- This project aims to utilize millimeter-wave sensors to classify small static objects

- Aim for a lightweight design, i.e., limit:
  - data structure size
  - runtime
  - energy usage

- Project will rely solely on data
Clasification Goals

• Detect small metal objects from a minimum range of 2 meters.

Stretch goal
Detect bullet casings hidden on a person
This project is for you if you...

- Have some experience with Machine Learning / Deep Learning / Neural Networks
- Are interested in working with a company that is on the cutting edge of mm-wave technology
- Are curious about the limits of detection technology and would like to help push the boundaries

For more information contact: Kasper Rasmussen <kasper.rasmussen@cs.ox.ac.uk>