

# HGV2 - Hyper-Local Navigation AI

**Industry Partner:** Ben Sand

**Location of Partner:** Online/Remote

**URL for Partner:** NA

**Contact Person:**

Name: Ben Sand

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Phone:

**General field/discipline:** AI, Deep Neural Networks

**Specific requirements/Skills:**

This project is for students who want a serious real-world industry experience. They will need to be self-motivated and goal focused, with a strong Python background and an interest in AI. Experience working with AI, deep neural networks, image processing or big data is preferred but not required.

TensorFlow/Keras, Python, Simulation Tools (experienced teams only)

**Project Outline:**

This is a real AI challenge connected to a real industry outcome. If your team is successful, we will be looking to hire.

We will be using neural networks working with computer vision, and potentially sensor fusion of IMU (accelerometer) to produce reliable indoor navigation for vision impaired people.

This is an advanced application of neural networks that is at the cutting edge of one of the most serious academic areas. Object segmentation, 3d object recognition and related areas are the subject of the most intense research, biggest conferences (ICCV, CVPR) and interesting jobs (Tesla Vision, etc.) in industry.

Scenario: You are a vision-impaired person and you need to get from point A to point B. You may encounter various obstacles such as vehicles, other people, different terrains, etc. We aim to make this easier through assistance AI technologies.

The goal of this project is to build a working prototype of a deep neural network to meet the scenario above.

Students will have the freedom to direct this project in a direction that best suits their team's experience and interests, whilst being guided by a full-time project manager to maximise their potential. Students will work alongside the industry partner and be able to gain valuable industry knowledge. Clients have more than 10 years of Capstone Project experience working with Sydney University.

**Teams:** 2+

**Resources:**

[Hyperlocal Navigation Challenge](#)