Jackson Ayling-Campbell

Mobile: 0284149864
Email: jackson.aylingcampbell@gmail.com
Website: https://www.jacksonac.me
GitHub: https://github.com/smolboii
Auckland, New Zealand

Education

Auckland, New Zealand — *The University of Auckland* — *2018-Present*

- **Degree:** Bachelor of Engineering (Honours) in Software Engineering
- **Progress:** Fourth year
- **GPA** by year: 7.5 / 8 / 7.75 / 8.667 -> Cumulative: 7.852
- Noteworthy **courses**:
  - COMPSCI 760 – Data Mining and Machine Learning: **A+** (First in class)
  - COMPSCI 773 – Intelligent Vision Systems: **A+**

Work Experience

Computer Vision Intern – *Beca* — *Nov 2020 – Feb 2021*

- Worked with 2 other interns to prototype a factory asset detection tool for integration with FACILITYtwin.
- Lead development and evaluation of deep models, such as YOLOv3, using Python and PyTorch.
- Primary front-end developer for web platform which was developed using ReactJS and Bootstrap.js.
- Conducted frequent code reviews of peers' work using Azure DevOps, and managed codebase using Git.
- Final product consisted of front-end labelling and detection visualisation platform which interfaces with Python backend to retrieve detections. Work received positively by supervisors – exceeded expectations.

Projects (titles link to their webpages – they are also on my GitHub)

YOLOv3 Object Detection algorithm:

- An implementation of the YOLOv3 Object Detection algorithm.
- Uses the same neural network architecture and pre-trained weights from the original YOLOv3 model.
- Uses OpenCV, PyTorch and NumPy for the neural network and overhead processing, e.g. IoU and NMS.
- Improved my proficiency with the typical Deep Learning stack (particularly for image processing).

Lunar Lander RL agent:

- A Deep Q-Learning agent trained to solve the OpenAI gym environment 'Lunar Lander'.
- Agent takes a feature vector as input, with features corresponding to coordinates, rotation etc.
- Agent's neural network (simple feed-forward ANN) programmed using PyTorch from scratch.
- Improved my understanding of RL, as well as how to implement NNs using PyTorch.

Skills

Languages:

- *Proficient*: Python, Java, Javascript, HTML and CSS

Other:

- PyTorch
- NumPy
- OpenCV
- Neural Networks & Machine Learning
- Git and GitHub version control
- ReactJS and Bootstrap.js