Jackson Ayling-Campbell

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Education

Auckland City, Auckland — *The University of Auckland* — *2018-Present*

- **Degree:** Bachelor of Engineering (Honours) in Software Engineering
- **Progress:** Third year
- **Results:**
  - First year overall GPA of 7.5. Courses were generally not software related:
    - Intro to Engineering Computation (A+)
  - Second year overall GPA of 8. Courses included:
    - Intro to Data Structures (Algorithms and data structures) (B+)
    - Object Oriented Software Construction (OOP design and philosophies) (A+)
    - Software Engineering Theory (Set theory & Number theory) (A-)
- **Estimated time of graduation:** March 2022

Projects (titles link to their webpages)

Neural Network library:

- A neural network library created completely from scratch by me using vanilla Javascript.
- Facilitates the creation of neural networks with fully-connected, convolutional and pooling layers.
- Used in my Digit Recognition project which classifies the user's hand written digits with high accuracy.
- Helped to develop my knowledge of neural networks.

Evolving Steering Agents:

- A simulation of natural selection programmed in Javascript using the p5.js graphics library.
- Involves independent steering agents which explore the surrounding environment for food, with their steering behaviour being dependent upon their genotype.
- Improved my understanding of genetic algorithms.

Advanced Raycasting:

- An advanced raycasting algorithm programmed using Javascript and the p5.js graphics library.
- Improves upon the traditional raycasting algorithm in both processing speed and precision.
- Was my first semi-large project using Javascript and p5js.

Skills

Languages:

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

Other:

- PyTorch and NumPy
- Git and GitHub version control
- RESTful APIs
- Neural networks & machine learning