Daniel Eisen

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About Me.

I am an engineering student, with a passion for electronics, science and programming, with a particular interest in the development of discrete embedded systems. In the future, I hope to work with human/hardware interface and signal processing, for example in integrated prosthetics.
A lifelong enthusiasm and interest in science and technology, as well as enthusiasm for problem-solving, has led me to gain a large knowledge base, and technical proficiency.
I strive to be a hard-working and communicative individual with a strong work ethic and integrity. Highly motivated, consistently working to the best of my ability and embracing criticism, striving towards improvement.
Recently I, and some of my peers began to work with our faculty in the establishment of a Robotics and Mechatronics club, which we hope will be an avenue for students to grow their skills and interests as well as serve as an outreach platform.

Technical profile.

Skills:

- Design/Constructions of IC/MicroProcessor based digital circuits/systems
- Electronic testing and data analysis
- Schematic and PCB design
- General application programming
- Networked applications
- Embedded programming/development
- 3D design/art

Languages: C/C++, Python,MatLab + Simulink,Arduino, Rust, Java, 8051 assembler
Environments: Altium, AutoDesk, Adobe, Microsoft, and Google Cloud Platforms

Experience.

11/2019 - 02/2020

Summer Engineering Researcher - Robinson Research Institute

Worked as a part of a team research project in the development of an integrated GMR sensor system for use in power grid monitoring. This involved signal processing, data analysis, embedded development as well as both digital and analog electronic work. Personally, my work was a mix of collaboration with different parts of the project, and working independently on the signal processing and section, as well as weekly presentations and progress summaries.

07/2019 - 11/2019

Data Analysis in Python Tutor - Victoria University of Wellington

- The course involved data analysis techniques use Numpy, Pandas and machine learning
- Tutor labs/tutorials up to 40, 100 level students. Answering questions and assisting with assignments and assignment work
- Marking and providing feedback on weekly assignments and tests
- Personally running weekly, smaller one on one help desk sessions for those with particular questions or issues

Experience.

02/2019 - 06/2019

Into to programming Java Tutor - Victoria University of Wellington

- Covered introduction to data structures and algorithms using Java
- Tutoring tutorials of up to 40, 100 level students. Answering questions and assisting with assignments and lab work
- Marking and providing feedback on weekly software assignments and tests

Personal Projects.

Teensy Button Sequencer Mainboard and 8-channel mixer

- Design a main board to host a Teensy 3.6
- Connected to modular component boards
- MIDI expansion ports

Boids Flocking in Rust

- Self-learning project
- Implemented the Boids Flocking Algorithm in Rust w/ ggez framework
- Utilized Mesh batching for optimising GPU draw calls

IoT Value Flow Rate Sensor

- Hall-effect based trigger
- Particle-IO connected flowrate calculations
- Interrupt driven data

Education.

2018 - present

Bachelor of Engineering (Hons): Electronic and Computer Systems Engineering
Victoria University of Wellington

- **Course Work:** Embedded Systems, FPGA Design, Digital Electronics, Electronic Design, Analogue Circuits and Systems, Model Differential Equations, System Programming, Network Applications, Engineering Modelling & Design, Data Structures & Algorithms
- 2018 Faculty Deans List

2016

Certificate: Introduction to Computer Engineering Course
Techtorium NZIIT

Referees.

Supervisor - Principal Engineer
Dr Fiona Stevens McFadden
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Manager - Course Coordinator
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