Viktor Neshikj

Computer Systems Engineer

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Experience

Vetus - Maxwell

Auckland, New Zealand

Embedded Systems Intern

Oct 2023 - Present

- Independently developed a control module for the anchoring system on small to medium sized vessels. My re-design was over ten times cheaper compared to the previous implementation, while also adding many features for safer operation including low-voltage lockout and fault detection/debugging.

Extracurricular Activities

University of Auckland

Auckland, New Zealand

Mentor

2023 - Present

- Tutor students in both **part I and part II** in approaching problems involving circuit analysis, embedded design, and programming.
- Act as a mentor and guide for students, helping them with motivation, guideline and goal setting, and skill development.

Rotary National Science and Technology Forum

Auckland, New Zealand

Participant

Jan 2019

- One of 160 students selected nationally to attend the Forum.
- Learned about the most recent developments in science, mathematics and technology, gaining an insight into university life.

Projects

Portfolio

https://viktorneshikj.site

2023 - Present

- As an exercise to widen my skills in development, I taught myself **React** and built a portfolio to showcase my projects.
- Taught myself how to wireframed using **Figma** and developed the outline based on the **Google Material Design** guidelines, enabling the creation of an aesthetic, eye-pleasing portfolio.

Pathfinding Robot - Cypress PSoC 5

https://github.com/JamesNZL/compsys301-pathfinding-robot

2023

- A self-navigating robot developed in a team of utilising a **PSoC 5** microcontroller.
- Designed analogue circuitry using photodiodes, tested using **LTspice**.
- Brainstormed and developed sensor constellation and layout.
- Designed and verified the PCB for the analogue circuitry using **Altium**.

AI Based Sign Language Interpreter

https://github.com/vneshikj/ASL-Interpreter

2023

- Developed an AI-based model to interpret American Sign Language in **Python** using **PyTorch**.
- Followed an MVC design pattern and developed the UI in **Python** using **PyQt5**.
- Collaborative project with two other individuals.

Flappy Bird - Cyclone V FPGA

https://github.com/vneshikj/Flappy-Bird

2023

- A **VHDL** project implemented on a **Cyclone V FPGA** development board, with two other individuals, viewed through VGA output.
- Designed a finite state machine for the different game states and game flow control.
- Implemented components to synchronize the VGA output and detect collisions.

Inductive Energy Monitor

https://github.com/vneshikj/Energy-Monitor

2022

- An embedded systems project monitoring the real time energy consumption of an inductive appliance.
- Designed and tested a custom PCB in **Altium** for signal sensing and conditioning.
- Developed firmware in **C** for an **ATmega328PB** for digital signal processing and data transmission through UART.
- Led a team of four in an agile environment with weekly progress checkups.

Education

University of Auckland

Auckland, New Zealand

Bachelor of Engineering in Computer Systems, GPA: 7.5

Jan 2021 - Present

Skills

Programming Languages: C, Python, Java, VHDL, MATLAB, R, LaTeX, Markdown, Javascript, CSS, HTML.

Technologies: Altium Designer, Quartus Prime, LTspice, PSoC Creator, Proteus Git, GitHub, Figma, React.