Viktor Neshikj

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Objective

I'm a passionate aspiring computer engineer wanting to improve the lives of people around the world. As an extroverted and energetic person, I love working in a group but also enjoy working independently. I'm not just about getting things done, I strive to give my absolute best no matter the task at hand. Above all, what is most important to me is bringing joy to my colleagues and the end-users through my work.

Education

Bachelor of Engineering (Honours) at The University of Auckland - present (Graduating 2025)

Project Experience

Flappy Bird - Cyclone 5 FPGA (2023)

- VHDL project implemented on an FPGA development board, viewed through VGA.
- Designed a finite state machine for the different game states.
- Developed components to implement VGA output, including horizontal and vertical synchronization.
- Project in collaboration with two other individuals.

AI Based Sign Language Interpreter (2023)

- Develop a model to interpret American Sign Language in Python using PyTorch.
- Followed MVC design pattern and developed the UI in Python using PyQt5.
- Helped develop an AI model based on VGG - 13 using PyTorch.
- Half a semester-long project in collaboration with two other individuals.

Android App - Java (2023)

- Watch showcasing app developed in Android Studio.
- Implemented search functionality, item filtering by category, navigation bar, as well UI implementation and wireframing in Figma.
- Developed the main page, search page and item view page.
- In collaboration with one other individual.

Energy Monitor (2022)

- Embedded system project monitoring real-time energy usage of a home appliance.
- Designed hardware for signal sensing and signal conditioning.
- Designed firmware in use for digital signal processing and data transmission through UART.
- Semester-long project in collaboration with three other individuals.

Interests

My love for fitness has driven me to exercise early in the morning before classes. I also immensely value my family and friends and enjoy going to the movies, arcade and playing pool with them.

Skills

Problem Solving

I'm a strong analytical thinker who is incredibly driven to solve challenges. I love breaking challenges into manageable components and developing solutions for each component. One of my most notable examples of this is during my energy monitor project last year, where we used analog circuitry and an embedded firmware program. I was able to break down the whole project into hardware and firmware, further breaking it down into signal sensing, conditioning, and filtering for the hardware side and analog to digital conversion and digital signal processing for the firmware side. Using this approach, we delivered an accurate energy monitor, receiving an excellent grade for the course.

Self Development

I'm a fast learner and consistently seek to develop new knowledge and skills through reading books, engaging in private study, reviewing others' work, or seeking mentorship. Having a curious approach to tasks, I seek to understand how things work by interacting with them, tweaking variables, and observing changes until I feel confident I have grasped the idea. My commitment to self-development has been instrumental in my personal and professional growth. I'm currently working on advancing my VHDL knowledge for a deeper understanding of the synthesis process.

Documentation

Documentation is of great importance to me. I enjoy sharing my knowledge, and thus when I am learning new skills or working on projects, I record all my work in a clear and structured way that would make it easy for anyone else to follow and understand. In my energy monitor project, I kept a log book of all the technical analysis and our decision-making during meetings so that the whole project and thinking process could be easily understood.

Leadership

As an extrovert, I thrive in social environments and often find myself in leadership positions. Last year I led my energy monitor project in a group of four. We developed an analog circuit with a fitted microcontroller to display the real-time energy consumption of an inductive household appliance. This year I was also chosen by my peers to lead our innovation project, where I overseed and managed a team of eleven members. Our innovation was an app that facilitated the transition to personalized medicine, with the treatment being tailored to the individual's unique characteristics. I was extensively involved in developing a compelling business case report and was the main presenter in our presentation.

Communication Skills

Throughout the projects I have worked on, I have further developed my social skills. Having worked in teams of three to eleven people, I'm equally comfortable working and connecting with people from diverse backgrounds. When we have been stuck on a problem for an extended time, I encourage my teammates to lighten up and keep a positive attitude. I'm supportive and acknowledge the difficulties we are facing, encouraging them to support each other and approach the problem from different angles.

Technical Skills

Firmware Development

I’m passionate about firmware development and programming microcontrollers. I find it incredibly fascinating to develop code for microcontrollers that interact with signals from the real world to build solutions. I enjoy the challenge of being limited in memory and optimizing algorithms as best as possible. Firmware was a critical part of my energy monitor project. We used an ATMega328PB in this project and developed the firmware in C. I had to think carefully about converting two analog signals into digital signals with a single ADC and signal processing to obtain the real power.

Hardware Design

A very close second passion of mine is hardware. We also had to design a PCB for signal sensing, amplification, and filtering for the energy monitor project. I wasn’t aware of how enjoyable hardware design was until this project. There is just something so satisfying about seeing how theoretical designs behave in the real world that makes it so interesting to me. I love that I can measure signals using instruments to validate my design. I used an oscilloscope and multimeter to diagnose hardware faults during our prototyping phase. After applying changes, I developed a PCB to feed reliable signals into a microcontroller for signal processing. The project ended up being a success, and we received an excellent grade for the project.

References

References available on request.