

# NIKOLA ZUPANCIC

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## EDUCATION

### Queen's University

*Bachelor of Applied Science; Computer Engineering*

Kingston, ON, Canada

September 2021 – April 2025

- **Relevant coursework:** Computer Architecture, Data Structures, Algorithms, Object Oriented Programming, Microprocessors and Embedded Systems, Operating Systems, Computer Networks, Database Management Systems, Numerical Methods & Optimization
- **Awards:** Dean's Scholars Distinction 2022-2023, Queen's University Excellence Scholarship 2021

## EXPERIENCE

### Retail Associate

*Scarlett Gardens*

May 2022 - August 2022

Toronto, ON

- Helped customers by answering questions about plants
- Arranged plants in the Garden Centre based on new arrivals, current stock and climate

## ACADEMIC PROJECTS

### Engineering Design Project

January 2022 - April 2022

- Classified handwritten digits using ML algorithms (**CNN, etc**) with an accuracy of 97%
- Created a GUI in python using TKinter to guess drawn handwritten digits using specified ML algorithms

### Arduino Engineering Design Project

September 2022 – December 2023

- Created a prototype pet collar that theoretically tracked the location and the heartbeat of a pet
- Acted as the leader of the group for decisions that were associated with **Arduino**

### Mechatronics Project

Jan 2021 – Aug 2021

- Lead my group in designing a path finding rover for a University Course
- Wrote **C++** code for **Arduino** to path find, pick up a flag, and detect obstacles

## PROJECTS

### Personal Website | *CI/CD, Markdown, Hugo, Git, Cloudflare*

September 2023 – Present

- Created a personal website built with **Hugo** to showcase projects, my resume and contact info
- Deployed on Cloudflare pages via Github

### GameBoy Emulator | *Rust, SDL2, Git*

June 2023 – Present

- A desktop app that emulates GameBoy Hardware including **CPU, Display, and Memory**
- Exercised **Bit Manipulation** techniques to decode cpu instructions

### SBC server | *Linux, Docker*

July 2023 – Present

- A rockpro64 that is running **docker** on **debian-aarch64** to host a NAS

## TECHNICAL SKILLS

**Languages:** C/C++, Rust, Python, Java, Assembly, Bash, VHDL, HTML/CSS, Markdown, SQL

**Libraries:** SDL2, Raylib, OpenGL, TKinter

**DevOps:** Git, Docker

**Tools:** Linux, QEMU/KVM, Cloudflare, VS Code, Android SDK

**Hardware:** Arduino, FPGAs, SBCs, Soldering, PCs