Nikola Zupancic

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EDUCATION

Queen's University   Kingston, ON, Canada
Bachelor of Applied Science; Computer Engineering   *September 2021 – April 2025*

- **Relevant coursework:** Computer Architecture, Operating Systems, Data Structures, Algorithms, Computer Networks, Digital Systems, Database Management Systems, Android Development, Mechatronics, Probability, Discrete Math, Numerical Methods & Optimization
- **Awards:** Queen's University Excellence Scholarship 2021

MNIST Problem Group Member   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 Prototype Group Hardware Lead   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 Design Lead   Jan 2021 – Aug 2021

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

PROJECTS

Personal Website | *CI/CD, Markdown, Hugo, Git, Cloudflare*   September 2023 - Present

- Created a personal website 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, HTML/CSS, Markdown, SQL
Libraries	: SDL2, Raylib, TKinter
DevOps	: Git, Docker
Tools	: Linux, QEMU/KVM, Cloudflare, VS Code, Android SDK
Hardware	: Arduino, SBCs, Soldering, PCs

EXPERIENCE

Garden Centre Employee   May 2022 - August 2022
Scarlett Gardens

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