

Elias Kountouris

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Skills

Languages	C++, C, Python, Javascript
Tools / Frameworks	Git, Pytorch, Tensorflow, Numpy
Software Packages	KiCAD, Solidworks

Experience

Waterloo Rocketry - Electrical Team September 2021 - Present

- Designed and created schematics and PCBs for rocket's Control Area Network (CAN)
- Developing mini sensor for CAN to gather acceleration, gyroscopic and barometric data
- Worked with I²C and SPI protocols for MCU-IC communication

Zappos - Software Developer (Intern) June 2020 - September 2020

- Implemented language processing techniques to improve main site search results
- Utilized sentiment analysis and web scrapping to improve product recommendations

Projects

Keypad PCB and Firmware - C, KiCAD

- Designed and created schematics and PCBs for custom keypad
- Developed firmware for the keypad using open source QMK library
- Assembled keypad, soldered SMD 0805 / 2012 components

Polynomial Regression Calculator - C++

- Created custom Matrix class to support matrix math
- Implemented Vandermonde Matrix algorithm for polynomial regression

TakeAways - Chrome Extension - Javascript

- Chrome extension to summarize article into several key points
- Created script to scrape web page for relevant text and select frequently mentioned topics

Chess Engine - Javascript, TensorflowJS

- Developed chess AI using Alpha-Beta searching to evaluate board positions
- Implemented heuristic techniques to optimize move searching
- Developing new evaluation function using TensorflowJS to improve performance
- Incorporated open source libraries to create user interface

Synbiolic - AI Drug Discovery - Python, Pytorch, React

- Microsoft Image Cup 2020 North American Finalist
- Developed stacked RNN network for small molecule generation
- Created front end of website using React

Education

University of Waterloo

Bachelor of Applied Science in Mechatronics Engineering

2021 - 2026

GPA: 3.97