

Elias Kountouris

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Skills

Languages C++, C, Python, Javascript
Tools Git
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

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

- Implemented language processing techniques to improve main site search results
- Assisted AI team with 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

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

Synbiolic - AI Drug Discovery - *Python, React, Pytorch*

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

Chess Engine - *Javascript, TensorflowJS*

- Developed basic 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

Polynomial Regression Calculator - *C++*

- Created helper functions to support matrix math in C++
- Implemented Vandermonde Matrix algorithm for polynomial regression

Education

University of Waterloo 2021 - 2026 (Expected)
Canidate for Bachelor of Applied Science in Mechatronics Engineering GPA: 3.97