

Elias Kountouris

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Technical Skills

Languages	C++, C, Python, Javascript, Bash, Verilog, SQL, JSON, Ruby, Java
Tools / Frameworks	Git, Pytorch, Tensorflow, Numpy, React, Node.js, Django
Technologies	KiCAD, VSCode, SPICE, Solidworks, Autocad, AWS, Azure, Windows, Linux

Experience

Waterloo Rocketry - Electrical Team September 2021 - Present

- Designed and created sensor schematics, PCB, and firmware for rocket's CAN
- Designed boards and created firmware using I²C and SPI
- Manufactured and debugged data acquisition system's power boards using reflow oven and oscilloscopes

Zappos - Software Developer June 2020 - September 2020

- Implemented language processing techniques to improve site search results
- Utilized sentiment analysis and web scraping to analyze reviews of products and adjust on-site product recommendations accordingly. Improved site retention by 10%

Feautred Projects

Keypad PCB and Firmware - C, KiCAD

- Designed and created schematics and PCBs for custom keypad
- Developed firmware for the keypad. Firmware was later contributed to the open source QMK library
- Assembled keypad, soldered SMD 0805 / 2012 components

Synbiolic - AI Drug Discovery - Python, Pytorch, React, Django, Azure

- Probabilistic model to produce possible drug candidates and decrease drug discovery time
- Microsoft Image Cup 2020 North American Finalist
- Developed stacked RNN for small molecule generation
- Created web app for project using React / Django to demonstrate use cases

TakeAways - Chrome Extension - Javascript

- Chrome extension which quickly produces summaries of web articles
- Created web scraper and filter algorithm to identify article text on a website
- Designed algorithm to use noun frequency to heuristically determine most common topics

Chess Engine - Javascript, TensorflowJS

- Developed chess AI using Alpha-Beta searching to evaluate board positions
- Implemented heuristic techniques to optimize move searching
- Trained evaluation function using TensorflowJS and database of over 20,000 chess games
- Incorporated open source libraries to produce intuitive user interface

Polynomial Regression Calculator - C++

- Created custom Matrix class to support matrix algebra in C++
- Implemented Vandermonde Matrix algorithm for polynomial regression

Education

University of Waterloo

Candidate for Bachelor of Applied Science in Mechatronics Engineering

2021 - 2026

GPA: 3.97