Alexander Wyllie

Software Engineer
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Summary

AI focused software engineer with strong mathematical background, significant research experience, significant application development experience, and additional experience in full-stack engineering and embedded systems engineering.

Experience

Dilex Networks, LLC
Lexington, Kentucky (Partially Remote)

Software Engineer
June 2018 — Present

Data/software consulting company that acquired Formatim in 2018

- built a new iOS app for Formatim to engage with new language features in swift including asynchronous data processing
- built nosql database for expanding to android and web apps

Space Tango, LLC
Lexington, Kentucky

Electrical/Software Engineering Intern
August 2020 — June 2021

Aerospace startup that specialized in building autonomous micro-experiments on the ISS.

- built video encoding system for IDS cameras for use on NVidia Jetson hardware
  - ∗ included ring buffering and batch file offloading in order to allow extended high frame-rate, high resolution video capture.
  - ∗ included ability to simultaneously capture video, take pictures, and stream video. Streaming video from space allowed for faster troubleshooting from ground without astronauts, significantly reducing experiment cost
- built ISS communications software for fast down-link of large files from orbit through NASA TReK API.
  - ∗ began building a simplified python wrapper for the TReK C API
- built automation software for multiple payloads using curses and ncurses in python
  - ∗ contributed directly to the controls software of the LambdaVision and Notre Dame payloads on NG-15 and CRS-22 among others

Formatim
Lexington, Kentucky

Self employed
December 2015 — June 2018

iOS app that provided dictionary lookup and grammar reference for latin words and phrases.

- was responsible for entire development, marketing, and release of the app.
- developed independent tokenization and results fetching algorithm for use with the dictionary provided by William Whitaker in William Whitaker's Words
- built phone optimized output screens with more user friendly output information (than Whitaker's Words)

Nanyang Technological University
Jurong West, Singapore

Student researcher
June 2018 — August 2018

Major national research university in Singapore

- contributed to Computational Social Choice research by Dr Rabinovich and Dr Obraztsova as part of a research abroad scholarship from the University of Kentucky
- built a social network model using python in order to examine impacts of influence propagation with interval-valued (uncertainty modeling) beliefs.

University of Kentucky   Lexington, Kentucky
Lab technician   March 2017 — August 2017
Major public research university in Kentucky

- performed digital microscope image analysis of research outcomes and data entry, contributing to publication
- performed mice population genealogical census for future research
    - * performed DNA extraction, isolation, and purification through PCR
    - * performed gene identification through agar electrolysis

Education

Bachelor of Science in Computer Science   August 2016 - December 2019
University of Kentucky, Lexington, Kentucky USA
Focused study in computing theory, artificial intelligence, and machine learning

Bachelor of Science in Mathematics   August 2017 - December 2019
University of Kentucky, Lexington, Kentucky USA
Focused study in optimization, real analysis, and partial differential equations

Citizenship

I am legally able to work in both the United States and Canada