

Alex Lin

Backend software developer with a background in Mathematics, Statistics and Information Security.

Personal Info

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LinkedIn

<https://www.linkedin.com/in/alex-lin-7a8962b4/>

Languages (Proficient)

- Python
- C
- Bash
- JavaScript

Languages (Familiar)

- Java
- Golang
- SQL
- Lua

Technical Skills

- Good knowledge of OO design and implementation of design patterns.
- Familiar with test driven development and test automation.
- Experience with full stack development.
- Good understanding of network protocols TCP/IP, BGP, ARP, OSI layers etc.
- Good foundation in data structures and coding practices.
- Experience with build automation and cross compilation.
- Experience with security tools and frameworks on Kali such as Metasploit, Nmap, Wireshark etc.

Volunteering Experience and Projects

Deerhunt Infrastructure Tech Lead

Volunteering

UTM Robotics Club

- Led a team of 10+ computer science students in the design, implementation, and testing of infrastructure for scheduling and computation of AI vs AI competitions.
- Automated the computation and scheduling of 3000+ matches between 510 iterations of AI players for 20+ teams of 2-4 students through Azure VM, Azure Blob, MongoDB, Flask, Unicorn, Docker, NginX and ReactJS and Pytest.

Charity Productivity App

2021 Hack the North

- Developed a Backend API in Go for a productivity app idea payments and charity donations to help users stay on task.
- Used HttpRouter module and implemented Firebase authentication, stripe api calls and SQL queries to CockroachDB. Supported by yaml config files.

EvtxReader Python module

Personal Project

- A python binary parser for Windows Event logger (.evtx) files and produces.

Javascript Animations

Personal Project

- Side hobby where I create Javascript animations using the Processing framework.

Education and Volunteering

University of Toronto 2017 - 2022

- Major in **Mathematics**, Minor in **Computer Science** and a Minor in **Statistics**.
- Studied: Software Design, Networking, OS, Cryptography, Information Security.
- Competed in Canada's National Cyber Security Challenge for UofT.

Work Experience

OS Security Developer and Testing Intern May - August 2021 Blackberry, QNX

- Developed new suite of unit tests for QNX's Strace utility in C and Python to test Libc POSIX system calls: message passing, IO, process forking, multithreading etc.
- Implemented new feature into Strace to output multithreaded tracing to different files. Debugged Strace for memory bugs using GDB remote debugging.

OS Security and Testing Developer Intern May - August 2019 Blackberry, QNX

- Ported and upgraded old tests written in a company internal testing framework to Pytest for QNX's Mandatory Access Control feature which controls the permission levels of running system processes.
- Maintained nightly regression test runs of all security features using Bash, Python and ssh/scp on a Jenkins server.
- Wrote bash Cron jobs using Rsync utility to generate backups of Jenkins server.

Full Stack Developer and Cyber Analyst Intern Jan - Dec 2020

Deloitte

- Designed and developed a full stack webapp in Python, VueJS and PostgreSQL to help the cyber incident response team keep track of ongoing client engagements.
- Partly supported incident response team with log parsing and filtering using Python and Bash.