

# Ian Li

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## Skills

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<b>Programming Languages</b>	C, Sh/Bash, Python, Java, Javascript, ARM assembly
<b>Frameworks</b>	React, Express, NodeJS, Sass, Axios, Foundation, Bootstrap, MongoDB (Mongoose), Flask
<b>Tooling</b>	Linux, Nix/NixOS, Regular expressions, Sed, Git, SSH/Telnet, Gdb, Valgrind, Netlify, Heroku
<b>Certificates</b>	Microsoft Azure AI-900

## Experiences

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### Principal Software Lead, *Rentura* 2021 – Current

- Lead the development of an **MVP webapp** using the **MERN** stack for furniture rental services
- Developed a **RESTful API** using **Express.js** with **CRUD** endpoints, and managed **MongoDB** instance and schemas
- Developed a mobile-first responsive **React.js** frontend using **Sass** and **Axios**

### Web Developer, *nvision* 2019

- Maintained **WordPress** sites using **LAMP** Stack, Developed themes and linked data from **MySQL** to WordPress
- Developed internal dashboards for employees using **MERN** stack and **Bootstrap**

### Software Developer, *FIRST Robotics Team 6866* 2020

- Developed software for a conveyor magazine system in Java using WPILib

## Projects

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### Experimental Interpreter 2020 – Current

Interpreted programming language written from scratch in C, with goals of static typing and strong type inference

- Designed an LL(1) parser that produces abstract syntax trees, evaluated using a tree-walk evaluator
- Goal is a predictable general-purpose language, eventually with its own compiler and JIT based interpreter
- Currently developing activation records via parent-pointer trees and a strong typing system (Hindley-Milner)

### Shell Site Generator (shsg) 2020 – Current

Minimalistic, lightweight and portable static site generator that can be deployed on any minimal UNIX-like environment

- Developing a static site generator written in pure POSIX-compatible shell and PCRE-compatible Regex
- Compiles markdown files to themed html pages using pure regex/sed; Program dependent on only coreutils
- Currently developing regex required to parse tables and lists, and removing dependency on PCRE (GNU coreutils)

### Mindless 2021

A proof-of-concept biometrics password manager that doesn't actually store any passwords

- Developed a biometrics-based password manager using facial recognition (opencv) with a web frontend (flask)
- Developed a hashing algorithm to produce passwords from facial landmark data; No password is ever stored
- Finalist project in a 36-hour hackathon (Hackwestern 8), competing as a one-man team out of 346 teams

## Education

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### University of Western Ontario 2021 – Current

**Candidate for Bachelor of Science** – Specialist in Honours Computer Science, Anticipated in June 2024

**Awards** – Dean's Honor List (2021 Fall/Winter), 3.9/4.0 GPA (90%)