

# Alvin Lai

✉ ah2lai@uwaterloo.ca

🏠 ah-lai.github.io

📄 github.com/ah-lai

📺 alvin-lai

## Skills

**Languages:** Python, C#, Java, C++, JavaScript, SQL

**Databases:** MySQL, MongoDB

**Tools/Frameworks:** ASP.NET, React, Django, AWS, Git, Docker, NodeJS

**Certifications:** Software Design & Architecture Specialization, IBM AI Engineering, Toastmasters International

## Professional Experience

### Miovision - Software Developer

Sept. 2020 - Dec. 2020

JavaScript, jQuery, C#, AWS, Terraform, ASP.NET

Waterloo, Ontario

- Designed and developed new analytics framework using **jQuery** and Segment API, capturing **20** unique events across **200+** daily users
- using **AWS Parameter** and **IAM Roles**, eliminating security vulnerabilities

### Miovision - Software Developer

Jan. 2020 - Apr. 2020

C#, AWS, ASP.NET, SQL, NUnit

Waterloo, Ontario

- Developed an event-driven service to monitor user login activity using **AWS Lambda** and **EventBridge** to send metrics to Datadog
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- Added automated tests with NUnit framework, increasing test coverage by **20%**

### Lumentum - Software Developer

May 2019 - Aug. 2019

Python, VB.NET, OpenCV, SQL

Ottawa, Ontario

- Developed a computer vision script (**OpenCV**) using **Python** to analyze tubing sealing quality, eliminating manual validation of over **500 images** per day
- Built an automation software in **VB.NET** to aid in manufacturing of optical devices, improving process cycle times and reducing manual inputs
- Wrote a database migration shell script to ensure consistency between local and QA database, removing the need to manually run stored procedures

### KingTiger Technology Inc. - Junior Engineering

Aug. 2018 - Dec. 2018

C++, Python, OpenCV, VBA

Toronto, Ontario

- Automated R.A.M inspection process using **C++** and **OpenCV**, identifying orientation of R.A.M module, saving **10+ minutes** of manual sorting
- Programmed a barcode scanner application using **Python**, **Z-Bar**, and **dlib**, allowing users to upload over **150** company assets

## Projects

### RateMyIdea - Serverless Application

- Engineered a serverless application using **React**, **GraphQL**, and **AWS Lambda** for users to post, comment, and rate project ideas
- Utilized Google Trends API to search key words from project ideas to provide market insights, generated data in intuitive graphs

### Messenger - Full Stack Web Application

- Developed a web application for communication between users utilizing token authentication, **RESTful** calls, and ORM (**mySQL**)
- Software design pattern is based on **MVC** model; front-end generated using **React**, **HTML**, and **CSS** to call RESTful API, which communicates with a **Django REST** back-end

### FishAI - Mobile (iOS) Application

- An iOS application developed in **Swift** used to classify fish species based on a photo taken by the user
- Created and trained deep learning **neural network (CNN)** using **Keras**, deployed model to **CoreML**, and created a script to build image dataset leveraging Bing API

## Education

### University Of Waterloo

Waterloo, Ontario

Candidate of B.ASc: Honours Mechanical Engineering,

Artificial Intelligence Option

**GPA: 3.9/4.0**

Graduating Sept. 2021

**Dean's Honours List:** F2017 & W2019 - **Top 10%** of class