Alvin Lai

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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 *- Full Stack Software Developer*   *Sept. 2020 - Dec. 2020*
Javascript, jQuery, C#, AWS, NodeJS, ASP.NET   *Waterloo, Ontario*

- Designed and developed an analytics framework using **jQuery** and Segment API; analyzing user behavior for product improvement by capturing **20** unique events across **300+** daily users
- Developed a microservice using **React** and **AWS lambda (NodeJS)** to upload and store study videos into **AWS S3**; increasing upload file size from 5GB to **5TB** and improving upload performance
- Created support tools feature in **ASP.NET** application to search and clone studies; decreasing support resolve times by **20%**

Miovision *- Software Developer*   *Jan. 2020 - Apr. 2020*
C#, AWS, ASP.NET, SQL, Terraform, NUnit   *Waterloo, Ontario*

- Eliminated legacy application's security vulnerabilities by leveraging **AWS IAM** roles and **AWS Parameter**; automating role assignments and EC2 instantiation using **Terraform**
- Developed an event-driven service to monitor user login activity using **AWS Lambda (NodeJS)**, **EventBridge**, and **Datadog**
- Created automated unit tests with NUnit framework, increasing test coverage by **25%**; ensuring functionality is preserved

Lumentum *- Software Developer*   *May 2019 - Aug. 2019*
Python, VB.NET, OpenCV, SQL   *Ottawa, Ontario*

- Developed a computer vision script (**OpenCV**) using **Python** to analyze tube sealing quality, eliminating manual validation of **500+ images** per day
- Built an automation application in **VB.NET** to aid in the manufacturing of optical devices, reducing cycle times by **15 minutes**
- Created 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 by detecting module's orientation using **OpenCV (C++)**, 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 obtain search traffic data related to project ideas, creating user friendly graphs using the API data

Messenger *- Full Stack Web Application*

- Developed a web application for communication between users utilizing token authentication, **RESTful** calls, and ORM (**mySQL**)
- Software design pattern was based on **MVC** model; front-end generated using **React** and **HTML/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*