SHUO HOU

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Summary of Qualification

- Hands-on experience in computer vision tools (**OpenCV**, MATLAB Computer Vision Toolbox), machine learning and deep learning frameworks (**Scikit-learn**, **Keras**, **Tensorflow**)
- Solid computer science background, proficient with programming in **Python**, **C**, **Java**, **SQL** and **MATLAB**
- Familiar with web technologies such as **React**, **Bootstrap**, **Angular**, **REST API**, **HTML**, **JavaScript**, **Node.JS**, **GraphQL**
- Proficient with version control tools such as **Git**, SVN
- Good understanding of project management and **software development lifecycle** (SDLC)
- Excellent communicator, able to explain complicated technical ideas in simple language

Education

Master of Engineering, Department of Computing and Software McMaster University, ON, Canada	09/2018 – 11/2019
Honours Bachelor of Science, Department of Computer Science University of Toronto, ON, Canada	09/2014 – 06/2018

Work Experience

Big Data Developer, Jobster.io   04/2020 – 08/2020

- Developed Robo Career Advisor on GCP, deployed to Jobster.io platform as an additional feature for clients' use
- Built a web scraper using Selenium driver to get public professional profiles
- Designed database schema and built logical/physical data model for storing and efficient querying structured professional profile data on Cloud SQL. Developed a backend using Flask to process REST API
- Implemented a front end to acquire user input and present visualization of industry statistics and optimal career path
- Regular maintenance of Robo Career Advisor backend services, including database updates and patches, improving search algorithms for more accurate job title match and career path planning

Project Experience

Personal Website   04/2020

- Developed a personal website using Angular. Deployed and hosted on GitHub Pages
- Access at https://houshuohoushuo.github.io

Canada Federal Election Twitter Sentiment Analysis   11/2019

- Trained a sentiment model using 200,000 tweets from Twitter, pre-processed the tweets using regex and nltk
- Extracted election related live tweets on Twitter using Twitter API, applied the sentiment model on entities (Names, Party, Region) mentioned in the tweets and analyzed the sentiment by entity, visualized the results of the sentiment on an interactive map built with JavaScript and Node.js

Breast Cancer Tumor Image Classification with Deep Learning   08/2019

- Collected clinical Ultrasound (US) images and on Photoacoustic tomography (PAT) images, performed data augmentation on the image data to increase the training set
- Applied different filters, such as Gaussian filter, Non-Local mean noise reduction to reduce the noise in the image
- Trained a shallow CNN, VGG, and ResNet using GPU cluster on Compute Canada and tested the performance of the classification models via k-fold cross-validation

Face Detection and Gender Classification   05/2019

- Detected face patches in image and video using Eigen Feature detector and tracked the feature points for face tracking
- Trained a gender classifier with a CNN model on the Face94 dataset, applied the classified on the detected face patches

Flight Search Android App   11/2018

- Extracted, transformed and loaded flight info in a PostgreSQL Database and connects to the client user interface via a JDBC connector
- Designed an Android App using Android Studio for users to search for flights, pick most optimal flight path