WAHAB AHMAD

B. A. SC COMPUTER ENGINEERING 2B

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SKILLS

Languages

- C++/C
- Python
- Java
- Javascript
- SQL

Tools and Frameworks

- Git
- Docker
- Tensorflow
- Unix

Activities

StarterHacks

- Taught a team of high school students Python for a contest
- Coached the team through brainstorming, planning and development processes

Tetrix Max

- Built and programmed a toy car with ultrasonic and line sensors to evade obstacles and stay in its lane
- Earned 1st place in Tetrix Max driving contest

WORK EXPERIENCE

Software Engineer

May– Aug 2020

PointClickCare

Remote

- Worked with **JSP, Java backend and SQL databases** to fix code defects, preform updates, and optimize runtime. Completing 10 development tasks over the term.
- Created/Updated a total of 30 **Junit tests**, validating code changes function as required
- Executed 50 monthly **regressions tests** to ensure the functionality of the webapp

Software Developer

Jan – Apr 2020

Watonomous

Waterloo, ON

- Worked with a team of engineers to help create University of Waterloo's first self-driving car
- Responsible for forming an accurate map of the surrounding environment around the car using information provided by **HERE and OSM maps**
- Wrote a **C++ parser** to convert HERE map to OSM map, retaining crucial details for a quicker, more lightweight navigation system

Junior Data Scientist

Sept – Dec 2019

Praemo

Downtown Kitchener, ON

- Optimized real-time python **data preprocessing** code to detect anomalous cycles in manufacturing machines, reducing the runtime by 20%
- Preformed **supervised clustering and classification** using k-means and k-nearest neighbor algorithm on real-time data
- Preformed real-time tests using **Docker containers**, then deployed the containers to **Kubernetes**
- Created a **custom python package** and refactored common functions into the package, reducing the codebase by over 3000 lines

Junior Data Scientist

Mar – Apr 2019

Mentr.ai

Downtown Toronto, ON

- Gathered links to 25,000 online courses using the **Google Search API**, storing the data on **SQL database** for a course driven app
- Cleaned the course links with **Pandas and Numpy**, retaining the optimal links
- Implemented a **word2Vec model** to rank order the courses using their descriptions, according to relevance

Software Developer

Jan – Feb 2019

GrowthGenius

Downtown Toronto, ON

- Uncovered repetitive sheets tasks and automated them through a custom **google sheets add-on**, diminishing 2 hours of weekly tasks
- Created an **automated email responder** using **Appscipt** to deliver routine updates to customers
- Wrote a **python web scraper** to retrieve LinkedIn user data and store it in **mongoDB**

PERSONAL PROJECTS

Machine Learning Dashboard (Python, Flask)

github.com/w28ahmad/Dashboard

Implemented popular applications of machine learning models on a dashboard

- Built a multivariate **LSTM neural network** to predict stock prices one day into the future with 90% accuracy
- Used Python's TextBlob to preform real-time **sentiment analysis** on twitter tweets for a given stock
- Incorporated a pretrained **YOLOv2 model** to **detect and highlight objects** in images and videos

Task Manager API (Javascript)

github.com/w28ahmad/Task-API

Secure API that manages and prioritizes tasks to improve productivity

- Wrote a **RESTful API** with secured endpoints using node express and deployed it on Heroku
- Integrated **JSON web tokens** for authentication and a **hashing algorithm** for securing the login information
- Incorporated automated **email notifications** and a **file upload** system to upload multiple tasks

Social Network (C++)

github.com/w28ahmad/Social-Network

Representing trust relationships among users on a social network with direct graphs

- Stores trust relationships within a social network through reflexive, symmetric and transitive relations
- Implemented **Warshall's Algorithm** for maintaining a transitive state for users on a network
- Implemented **Kruskal's Algorithm** to find the minimum spanning tree, to identify friend groups in the social network

FaceGen (Python, Tensorflow)

https://github.com/w28ahmad/FaceGen

Model that can generating brand new face images

- Trained a **GAN model** with 5000 images of human faces to generate original grayscale faces
- Modified and retrained the model generate colored image of human faces

Facial Features Classification (Python, Tensorflow)

github.com/w28ahmad/FaceFeatureDetection

Classifying various facial features

- Trained a **convolutional neural network** to detect facial features with a dataset of 5000 images
- The trained model can accurately predict features in photos, videos and live webcam feed
- Used **clustering** to determine **facial expressions** within the images