Mazen Alotaibi

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Education

Oregon State University *College of Elect. Eng. & Comp. Sci.* Corvallis, OR (September, 2015 - June, 2019)
B.S. in Computer Science Applied in Artificial Intelligence, with Minor in Actuarial Science (GPA: 3.69/4.0).

Relevant Courses: Objected-Oriented Programming, Data Structures, Analysis of Algorithms, Databases, Computer Architecture and Assembly Language, Digital Logic Design, Theory of Computation, Computer Networks, Operating Systems, Artificial Intelligence, Software Engineering, Usability Engineering, Parallel Programming, Graph Theory, Machine Learning and Data Mining, Intelligent Robots, Programming Language Fundamentals, Discrete Mathematics, Linear Algebra, Probability, Statistics for Engineers, Numerical Analysis, Mathematical Statistics, and Applied Stochastic Models.

Licenses & Certifications

Deep Learning Specialization January, 2020
https://www.coursera.org/account/accomplishments/specialization/certificate/MLDXX764WNQR

- Neural Networks and Deep Learning
- Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization
- Structuring Machine Learning Projects
- Convolutional Neural Networks
- Sequence Models

TensorFlow in Practice Specialization August, 2019
https://www.coursera.org/account/accomplishments/specialization/certificate/HBYMWP2UBAFV

- Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning
- Convolutional Neural Networks in TensorFlow
- Natural Language Processing in TensorFlow
- Sequences, Time Series and Prediction

Experience

Computational Data Scientist Corvallis, OR (October, 2019 - Present)
Center for Genome Research and Bio-computing

Undergraduate Lead GPU Computational Researcher Corvallis, OR (October, 2018 - June, 2019)
Center for Genome Research and Bio-computing

- Worked on **Tech Data AI Demo** which featured in the **IBMThink2019 Conference**.
- Contributed to the development of multiple Deep Learning related projects, including **Owl Sounds Classification**, **Plankton Classification**, and **Seeds Classification**.
- Assisted fellow undergraduates in understanding the concepts and implementation of machine learning and deep learning systems.

Lead Photographer Dhahran, Saudi Arabia (Summer 2012)
Saudi Aramco Summer Program

- Managed a team of 6 photographers to document summer program events.
- Hosted and organized multiple teaching photography sessions for **more than 70 inspired photographers**.

Technical Skills (**Proficient**, Familiar)

Data Analysis: **NumPy**, **OpenCV**, **PyTorch**, **TensorFlow**, **scikit-learn**, and R.
Web Development: **JavaScript**, **jQuery**, **PHP**, **Node.js**, **React.js**, **React Native**, **Flask**, and NGINX.
Parallel Programming: CUDA, OpenGL, and OpenCL.
Programming Languages: **C**, **C++**, **Python**, **Bash**, MATLAB, and Java.
Tools: **Git**, **MySQL**, **NoSQL**, **LaTeX**, Docker, and ROS.
Languages: **Arabic (Native)** and **English (Professional Proficiency)**, and Japanese (Elementary Proficiency)..

Projects

Tech Data AI Demo November, 2018 - Feburary, 2019

http://aidemo.cgrb.oregonstate.edu/

- Developed a website that races multiple hardware by running Deep Learning models developed by the CGRB lab. The project sponsored by **Tech Data**, **IBM**, **NVIDIA**, and **OpenPower**, and the project featured in **IBMThink2019 Conference**.
- Developed the website using **Bootstrap**, **JavaScript**, **Node.js**, **NGINX**, and **Bash**.

Pedestrian Tracking and Privacy Preservation *(Senior Design Project)* October, 2018 - June, 2019

https://github.com/PavementPrometheus/Street-Watch

- Worked with a team to develop a computer vision system that detects pedestrians' faces to obfuscate them in real-time. Then applies a tracking system, developed by Chanho Kim, to understand pedestrian and traffic behavior to increase the safety of the traffic for **the City of Portland**.
- Developed the detection system using **OpenCV** and **PyTorch**, the traffic system using **OpenCV** and **TensorFlow**, and the web API and application using **Flask**, **Node.js**, and **MongoDB**.

Exploring Robot November, 2018

https://github.com/madebymaze/exploring-robot

- Designed an exploration package utilizing the **gmapping** and **nav bundle** packages to allow a simulated robot to explore an unknown environment using **Python** and **ROS**.
- Designed an algorithm that generates waypoints to be followed by the robot, and each waypoint is weighted based on *Convolutional Filter* with some weighted conditions.

Image Captioning July, 2018 - August, 2018

https://github.com/madebymaze/image-captioning

- Built a **Convolutional Neural Network-Recurrent Neural Network** (CNN-RNN) model to automatically generate captions from images using **NumPy**, **OpenCV**, and **PyTorch**.
- Trained the Encoder[*CNN*] for feature extracting and trained the Decoder[**Long Short-Term Memory** (LSTM) cells in *RNN*] to generate captions.

Facial Keypoints Detection June, 2018 - July, 2018

https://github.com/madebymaze/facial-keypoints-detection

- Built a *CNN* model to predict Facial Keypoints using **NumPy**, **OpenCV**, and **PyTorch**.
- Trained the *CNN* model to detect faces and predicts **68 distinguishing keypoints** on that face.

Self-Driving RC Car May, 2018 - June, 2018

https://github.com/OSUmlaiclub/SelfDrivingRCCar/tree/mazen

- Wrote a web app that streams a live-feed and a controller to control an RC Car's controller, **Raspberry Pi**, using **Node.js**, **JavaScript**, and **Python**.
- Built the structure of the intelligent agent and machine learning model.

Image Classification May, 2018

https://github.com/madebymaze/image-classification

- Wrote a **Multiple Layer Perceptron** (MLP) that classifies images using **NumPy** and **PyTorch**.
- Trained the *MLP* model using **CIFAR-10 dataset**.

Aces Up Game November, 2017 - December, 2017

https://github.com/madebymaze/AcesUp.game

- Wrote a web app with a team using **Java** *Ninja framework* for back-end, **JavaScript** for front-end, and **Heroku** and **GitHub** to host the web app.
- Won the **Best Web Application for Software Engineering I** *(CS-361)*.

Personal Website December, 2016

https://github.com/madebymaze/madebymaze.github.io

- Wrote a personal website using **Node.js** for back-end and **JavaScript** for front-end.
- Wrote an **NGINX** script that directs HTTP requests to HTTPS and maps networks.

A.I. Algorithm for a 2D Grid Game April, 2016

https://github.com/madebymaze/ai-2d-grid-game

- Wrote a 2D grid game, *Hunt the Wumpus*, with a dynamic grid size using **C++**.
- Wrote an embedded intelligent agent to solve the game using *Probability Distribution Methods*.

Extracurricular Activities

IBMThink2019 ***(Conference)*** San Francisco, CA (Feburary, 2019)

Presenter at Tech Data Booth

- Invited to **IBM Conference** by **Tech Data** to present Tech Data AI Demo to increase sales.
- Connected with **more than 100 potential clients** who are interested in using the demo to increase their sales in different regions, such as Brazil, the United Kingdom, and Japan.

OSU ML/AI Club Corvallis, OR (May, 2017 - June, 2019)

Vice-President

- Responsibilities are to present the latest literature into AI, ML, DL, and CV areas biweekly, host learning sessions to solve Kaggle competitions for new learners.
- Worked on building a Self-Driving RC Car, Kaggle Competitions, and a Breast Cancer project with the group members.

PyImageConf2018 ***(Conference)*** San Francisco, CA (August, 2018)

Attendee

- Attended a conference that focuses on advanced techniques in Computer Vision and Deep Learning research and their implementations to solve real-world problems.
- Built a **Faster Regional-Convolution Neural Networks** (Faster R-CNN) from scratch to classify images with higher accuracy than popular networks using **NumPy** and **PyTorch**.

DesertHacks ***(Hackathon)*** Phoenix, AZ (February, 2017)

Participant

- Worked with a team to build a web application that analyzes users' behavior from a list of previous behaviors based on *Markov Chain Methods*. The app was built using **Node.js** and **Flask** for back-end, **JavaScript** for front-end, **Python** for data analysis, and **SQL** for data saving and pulling.
- Hosted the web application on **Amazon Web-Services** (AWS).

App Club OSU Corvallis, OR (Mar, 2016 - November, 2017)

Active Member

- Worked to build small projects using new tools with club members.
- Helped new members in explaining web development technologies and standard practices in development.