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, Discrete Mathematics, Linear Algebra, Probability, Statistics, Numerical Analysis, and Mathematical Statistics.

Experience

Lead GPU Computational Researcher Corvallis, OR (November, 2018 - Present)
Center for Genome Research and Biocomputing

- Worked on Tech Data AI Demo which was featured in the IBMThink2019 Conference.
- Contributed to the development of multiple Deep Learning related projects including Owl Sounds Classification and Plankton 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

Data Analysis: NumPy, OpenCV, PyTorch, Keras/TensorFlow, scikit-learn, and R.
Web Development: JavaScript, jQuery, PHP, React.js, Flask, Node.js, NGINX.
Programming Languages: C/C++, Python, Bash, MATLAB, and Java.
Tools: Git, SQL, NoSQL, ROS, and LaTeX.
Languages: Arabic (Native), 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 is sponsored by **Tech Data**, **IBM**, **NVIDIA**, and **OpenPower**, and the project was featured in IBMThink2019.
- 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

- Developed a computer vision system that detects pedestrians' faces to obfuscate them in real-time, then applies a tracking system 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 **Keras/TensorFlow**, and the web API and application using **Flask**, **Node.js**, and **MongoDB**.

Image Captioning July, 2018 - August, 2018

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

- Built a **Convolutions Neural Network-Recurrent Neural Network** (CNN-RNN) model to automatically generate captions from images using **NumPy**, **OpenCV**, and **PyTorch**.
- Trained a model utilizing a Convolutional Neural Network for feature extraction and a Long Short-Term Memory Network for generating the predicted 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/maze

- 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 an **Multiple Layer Neural Networks** (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 a **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)

Presented at Tech Data Booth

- Intived to IBM Conference by Tech Data to present Tech Data AI Demo to increase sales.
- I have presented my work at the conference and I have connected with more than 100 potential clients who are intresented to use the demo for increase their sales in different regions, Paraguay, UK, and China.

OSU Machine Learning/A.I. Club Corvallis, OR (May, 2017 - Present)

Vice President

- Responsibilities are to present latest literature in to AI, ML, DL, and CV areas biweekly, host learning sessions to solve simple 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 well-known networks using **NumPy** and **PyTorch**.

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

Participant

- Worked with a team to build a web application that analysis a user's behavior from a list of previous behaviors based on *Markov Chain Methods* 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 common practices in development.