Nihal Dhamani

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EDUCATION

THE UNIVERSITY OF TEXAS AT AUSTIN

B.S. Computer Science
ML/AI Concentration
B.S.A. Astronomy
Middle Eastern Studies Minor
Expected Dec 2019 | Austin, TX

JOHN FOSTER DULLES HS
Grad. May 2015| Sugar Land, TX

SKILLS

PROGRAMMING
Proficient:
Python • Java
Working Knowledge:
Go • C/C++ • MATLAB • SQL • CSS
Bash • HTML • PHP • JavaScript

TECHNOLOGIES
OpenCV • TensorFlow • AWS • Keras
PyTorch • NumPy • Pandas • Boto3
Docker • Flask • Android Studio • Git

MISCELLANEOUS
Project Management • Technical Writing

COURSEWORK

Udacity Self-Driving Car Nanodegree
Computer Vision
Artificial Intelligence
Natural Language Processing
Data Mining
Software Engineering
Data Structures
Algorithms
Operating Systems
Computer Architecture
Mobile Computing
Statistics and Probability
Linear Algebra

ACTIVITIES

TEXAS BLAZERS

Vice Chair of Community Service | Sept. 2016 - Present
Service organization devoted to serve UT Austin and the surrounding community

EXPERIENCE

NASA JET PROPULSION LABORATORY

Mars2020 GDS Software Engineer (Part-time)
November 2018 - Present | Remote

- Developed and tested a multi-threaded file sync tool in Go to automatically sync the latest objects created on AWS S3 buckets to the local file system
- Developed a Pip package to improve efficiency of a custom single sign-on proxy

Mars2020 GDS Software Engineering Intern
May 2018 - August 2018 | Pasadena, CA

- Architected and implemented a CLI tool for LDAP security group management
- Established an endpoint health monitoring system hosted on AWS making use of various technologies including Docker and ElasticSearch

TEXAS SPACECRAFT LABORATORY

Seeker R&D
January 2019 – Present | Austin, TX

- Architected and developed an end-to-end ML pipeline capable on running entirely on AWS.
- Formalized various approaches to achieve on-orbit pose determination using a monocular camera.

Seeker1 ML/CV Lead
September 2017 – May 2018 | Austin, TX

- Formulated, implemented, and tested machine learning and computer vision algorithms for NASA JSC's Seeker CubeSat Mission.
- Developed multi-threaded video processing capable of running on low-cost flight hardware software to extract orbital information from a spacecraft.
- Final system launched on Cygnus NG-11 in April 2019.

METECS

Engineering Intern
May 2017 – August 2017 | Houston, TX

- Designed, implemented, and tested a voice user interface system for an inventory tracking system that is deployed on the International Space Station.
- Created a real-time inventory tracking website using data from RFID sensors.

PROJECTS

HIGHWAY LANE RECOGNITION : Developed a robust image processing pipeline for detecting, identifying, and calculating curvature of a highway lane in an image. Achieved successful lane recognition for multiple vehicle dashcam videos.

EMOJI PREDICTOR : Scraped Twitter emoji data and trained multiple ML models including LSTMs and CNNs in order to predict the emoji representation of a sentence.

RAVENML : Architected an open-source Python CLI tool to serve as a full ML training pipeline. Integrated TensorFlow to create a CNN plug-in for efficient model training.

BRAN : Developed a CLI tool to automatically create and SSH into an EC2 instance given user input settings. Automatically sets up the docker container needed to run ravenML.

BEHAVIORAL CLONING SELF-DRIVING CAR : Developed an ML model in Keras to drive a simulated car around track through use of behavioral cloning.

TRAFFIC SIGN CLASSIFIER : Wrote a custom and slightly modified implementation of the LeNet architecture in TensorFlow to develop a German traffic sign classifier.

WAILA : Wrote a real-time object detector Android application that provides functionality to learn more about the object and save it as a memory.