NAYEF AHMED

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EXPERIENCE

Facebook AI Research | Software Engineer Intern
C++, Python, PyTorch | New York, NY (Remote) | May - Sep 2020

- Working with the AI Platform team to develop new NLP models for PyTorch

Lyft Level 5 | Software Engineer Intern - Autonomous Driving
C++, Python, TensorFlow, OpenCV, BigQuery | Palo Alto, CA | Jan - Apr 2020

- Trained new classifier with the Perception team capable of detecting traffic light bulb shapes with **90%+ accuracy** on an extremely unbalanced dataset
- Designed a regression test suite which can provide a **binary decision** for engineers when deciding whether to release a new model to the vehicle
- Created a test creation GUI that gives engineers finer control when selecting relevant obstacles from an image which cannot be regressed on in the future

Facebook AI Research | Software Engineer Intern
C++, Python, OpenCV, PyTorch, Presto | Menlo Park, CA | May - Aug 2019

- Worked with the Computer Vision team to create a face detection and tracking pipeline **running on all Facebook videos in real-time**
- Benchmarked precision and recall of various detection models (**Mask R-CNN, DFSD, Viola-Jones**) and tracking algorithms on a 600k SOA video dataset
- Collaborated with leading researchers (Ross Girschick and Yufei Wang) to anonymize faces in the video dataset using detection and tracking results

Microsoft | Software Engineer Intern
C#, Redis, Kusto, Azure | Redmond, WA | Aug - Dec 2018

- Architected Ownership Enforcer (OE) service on the Azure Infrastructure team to enforce PR code reviews for compliance and security assurance
- Improved performance of OE service by designing multi-layered Redis Cache pipelines from the ground up, **reducing VSTS API calls by 150%**

Microsoft | Software Engineer Intern
C#, C++, Unity, XAML, HoloLens | Vancouver, BC | Jan - Apr 2018

- Worked on the 3D Viewer team to create a cross-platform Windows/HoloLens app for viewing 3D files used by **3 million+ monthly users**

Watonomous | Path Planning Engineer - Autonomous Driving
C++, ROS, RViz, CMake | Waterloo, ON | Sep 2017 - Apr

- Collaborating on a student-led design team to transform a Chevrolet Bolt EV into a Level 4 autonomous vehicle for the SAE AutoDrive Challenge

PROJECTS

Flappy Goose | Game in an Embedded RTOS Environment
C, Keil RTX RTOS, LPC1768 Microcontroller

- Recreated Flappy Bird game using a Keil MCB1700 board in a **real-time OS**

Study Space | PennApps XVI (Google Prize Winner)
Android Things, Java, Firebase

- Created IoT device and companion app to **display real-time occupancy** of specific locations on campus using 'Android Nearby' communication platform

EDUCATION

University of Waterloo
2016 - 2021

BASc in Honours Mechatronics Engineering, Co-op
Option in Artificial Intelligence

Charles III University of Madrid
2019

International Exchange Semester

Relevant Courses

- CS231n - Convolutional Neural Networks (Stanford)
- Practical Deep Learning for Coders (fast.ai)
- Machine Learning (Coursera)

SKILLS

Languages

- Python
- C++
- C#
- C
- Java
- JavaScript
- PHP
- SQL

Technologies/Frameworks

- OpenCV
- ROS
- Pandas
- NumPy
- PyTorch
- TensorFlow

Tools

- Git
- IPython
- Redis
- Linux
- BigQuery
- Azure

ACCOMPLISHMENTS

- President's Scholarship of Distinction
- Google Prize @ PennApps XVI
- 3rd Place @ IEEE Hardware Hackathon

HOBBIES/INTERESTS

- Varsity Ultimate
- Hiking
- Road Biking
- Mentorship
- Robotics