Leo Neat

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EDUCATION

UC SANTA CRUZ

BS in Computer Science
Expected May 2019
Dean's List (All Semesters)
Cum. GPA: 3.92 / 4.0

M.S. in Computer Engineering (Awaiting Acceptance)
Expected May 2020
4 + 1 B.S/M.S. program
Currently taking graduate level classes to apply to my M.S. degree upon acceptance

COURSEWORK

GRADUATE

Computer Vision and Image Processing
Advanced Algorithm Analysis

UNDERGRADUATE

Machine Learning
Advanced Programming
Comparative Programming Languages
Probability and Statistics
Computer Architecture
Computer Systems
Assembly Language
Web Development
Discrete Math
Data Structures
Communication in C.S.
Linear Algebra
Vector Calculus

LANGUAGES

EXPERT

Java • Python • Android

PROFICIENT

C • C++

FAMILIAR

Shell • SQLite • Scheme • Matlab • XML • Java Script

LINKS

Github:// **Leo-Neat**
LinkedIn:// **leo-neat**

EXPERIENCE

UC SANTA CRUZ COMPUTER VISION LAB | Undergrad Research

December 2016 – Present | Santa Cruz, CA

- Developed a Convolutional Neural Network testing pipeline by implementing an android client to stream live camera data to a Linix server for processing. This resulted in quick and effective CNN evaluations for the lab.
- Developed an Android application to help the visually impaired recognize text in their surroundings which led to the following publication: "Scene Text Access: A Comparison of Mobile OCR Modalities for Blind Users" 23rd International Conference on Intelligent User Interfaces. ACM, 2019.
- Developed a system to test the inference speed of TensorFlow Lite models on mobile devices in order to determine costs and benefits of on-board vs. server side inference for mobile CNNs.

AQUIFI | Software Engineering Intern

June 2018 – Sep 2018 | Palo Alto, CA

- Developed an Android application that allowed for users to quickly offload data from Aquifi devices to Aquifi servers for quality assurance, regression testing, and training.
- Created an algorithm to detect corrupted frames in Aquifi camera stream, which resulted in the assurance that Aquifi devices were initialized correctly.

JET PROPULSION LABORATORY | Software Engineering Intern

June 2014 – Sep 2017 | Pasadena, CA

- Designed, developed and built an Optomechanical System that utilizes an Android phone to emulate a star for space camera testing. This resulted in saving the WFIRST detector team months of camera testing, thousand of dollars, and the following publication: "Smartphone scene generator for efficient characterization of visible imaging detectors", Proc. SPIE 10709, High Energy, Optical, and Infrared Detectors for Astronomy VIII.
- Parallelized the initialization process of a telescope testbed which resulted in the reduction of the initialization time by a factor of seven.

PROJECTS

ASSISTIVE TEXT DETECTOR | Personal Project

Sept 2018 – Present

- Created an Android application that assists the visually impaired in the navigation of the world by preforming live on-board text detection and optical character recognition. This application is in internal testing phase and will be available on the google play store in the next couple of weeks.

CROWD SIZE DETECTOR | Personal Project

Dec 2017 – Present

- Currently developing a platform using TensorFlow's Object Detection API to monitor the number of people in a variety of public locations.
- Plan to notify users via AWS's SNS when crowd levels are low.

CRUZ HACKS | Hackathon

Jan 2017

- Developed a Monte Carlo simulation to help predict the demand of every computer science class at UC Santa Cruz.