Aryton Hoi

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Education

Northeastern University | Boston, MA — **Sept 2017 - Expected May 2021**
Khoury College of Computer Sciences — GPA 3.74 / 4.00
Bachelor of Science in Computer Science • Minor in Mathematics

Courses Web Development, Algorithms, Object-Oriented Design, Networks, Computer Systems, Embedded Systems, Statistics, Multivariable Calculus, Differential Equations and Linear Algebra
Awards Google CodeJam2018 Qualifier, University Honors Program and Scholarship, Dean's List

Skills

Languages Python, Java, C/C++, Matlab, SQL, HTML/CSS, JavaScript, Racket
Technologies Linux, Windows, Git, Keras, Tensorflow, Anaconda, React, Slurm, ROS, Tmux + Vim, JetBrains

Projects

Sorting Visualizer — **Feb 2020 - Ongoing**
HTML/CSS, JavaScript — Personal

- Building web app that interactively visualizes various sorting algorithms and their time/space complexities using HTML, CSS, and JavaScript
- Planning to implement MVC approach to practice better code design

AirVisuals | Awarded "Best Website" — **Oct 2019 - Dec 2019**
React, Flask, HTML/CSS, SQL, JavaScript, Python, Google Cloud — YHack2019 / Personal

- Co-designed and built web app to automatically sort and visualize customer review data with focus on reviews thanking specific employees to emphasize customer appreciation and employee value
- Implemented relational SQL database to store and query over **10,000+** reviews, Flask REST api to handle SQL queries and Google NLP api calls, and dynamic React front-end

CounterPoint | Awarded "Best Use of Google Cloud" — **Sept 2019**
Flask, Python, HTML/CSS, Google Cloud — HackMIT2019

- Developed web app to combat political echo chambers by identifying topics, keywords, and sentiment from news articles and suggesting other viewpoints from opposing sources using Flask and Google Cloud's NLP api

Experience

MIT Lincoln Laboratory | Summer Intern — **July - Sept 2019**
Python, Keras, Bash, Slurm, Anaconda — Lexington, MA

- Co-developed drone disaster relief system that automates location, health assessment, and triage of civilians to aid first responders
- Integrated MIT's RoadTracer model to extract road network graph from satellite images and implemented Dijkstra's algorithm on resulting graph to compute shortest paths
- Processed **70GB+** zipped video data to train YoloV3 architecture to detect pedestrians in real-time from birds-eye view with **70% mAP**

MIT Lincoln Laboratory | Biomedical Image Processing Co-op — **Jan - Sept 2019**
Keras, Tensorflow, Anaconda, Python, Matlab, Bash, Slurm, LL Supercomputing Cluster — Lexington, MA

- Implemented custom cross-entropy loss function for 3D-UNet architecture using Keras to automate axon fiber tracing from brain scan volumes
- Increased data pipeline capacity by **6,300%** by modifying Matlab library functions to more efficiently process volumes and debugging previous Co-op's code
- Wrote Matlab and Python programs to streamline processing of 20GB+ zipped volumes on Lincoln Lab's supercomputing cloud environment
- Developed Matlab programs to visualize and manually annotate brain volumes and enabled development of crucial evaluation metrics and other neural networks

Northeastern University | Teaching Assistant — **Sept 2018 - Jan 2019**
Discrete Math, Counting, Graph Theory — Boston, MA

- Hosted office hours to guide students through problem sets involving bit arithmetic, probability, counting, graph theory, and inductive proofs
- Graded homeworks and exams and provided course and student feedback to instructors in weekly meetings

Activities

Involvement Boston Youth Symphony, Toastmasters, Obstacle Race Course Training
Hobbies Violin, Tennis, Origami, Ice Skating, Cooking, Dancing