FAROUK HARB

+1 (217) 200 1767 ⋄ eyfmharb@gmail.com ⋄ https://farouky.github.io/

EDUCATION

University of Illinois Urbana-Champaign (UIUC) *August 2021 - Present*
PhD Candidate in Computer Science GPA: **4.0/4.0**

Hong Kong University of Science and Technology (HKUST) *September 2015 - May 2019*
Double major in Mathematics and Computer Science (First Class Honors) CGA: **3.932/4.300**

EXPERIENCE

Google May 2022 - August 2022
Software Engineer

· Incoming Software Engineer.

Citadel LLC July 2019 - June 2021
Quantitative Trader

· Rewrote the trading simulation system and pipeline using Python 3 and C++11 that resulted in a **15x speedup on simulation run times**.
· Implemented a customized resource allocation algorithm for the team's simulation workload on a large scale cluster leading to **cutting simulation cost by** $\approx 15\%$**.** .

Credit Suisse June 2018 - August 2018
Technology Analyst Intern

· Implemented a recommender system for recommending financial instruments to potential customers. 92% **of users reported improved recommendations in their feed**.

Augmedix June 2017 - August 2017
Software Engineer Intern

· Built a Restful speech-to-text back-end service that transcribes audio files into text and inserts them into a Google Spreadsheet with Flask and MongoDB. **The code freed 32 working hours daily for the firm.**

PROJECTS

Reddit Suicide Posts Detector: Programmed a decision tree based on information gain to detect whether a Reddit post was about self harm (suicide) or not. Achieved 84% accuracy.

Open Source Contributor: Rewrote the C++ back end for the Neural Network API in Shogun-toolbox, an open source C++ Machine Learning library, so that it uses automatic differentiation. Improved documentation and unit tests.

PEER REVIEWED PUBLICATIONS

E. Harb and H. S. Lam. KFC: A Scalable Approximation Algorithm for k-center Fair Clustering. **NeurIPS 2020.**

M. Golin and E. Harb, Polynomial Time Algorithms for Constructing Optimal AIFV Codes. **DCC 2019**.

M. Golin and E. Harb, Speeding up the AIFV-2 dynamic programs by two orders of magnitude using Range Minimum Queries, **Theoretical Computer Science Journal**.

RELEVANT COURSES

Undergraduate Courses
Algorithms
Operating Systems
Honors Software Engineering

Graduate Courses
Advanced Algorithmic Techniques
Introduction to Combinatorial Optimization
Machine Learning

PROGRAMMING LANGUAGES

Python, C++11