FAROUK HARB

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EDUCATION

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

PEER REVIEWED PUBLICATIONS

E. Harb and H. S. Lam, Scalable Approximation Algorithms for Fair k-center clustering. **NeurIPS 2020** (20% acceptance rate).

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

M. Golin and E. Harb, Polynomial Time Algorithms for Constructing Optimal AIFV-2 Codes, **Submitted to IEEE Transactions on Information Theory**.

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

E. Harb and R. Wong, "Greedy Approximation Framework for Top-k Diverse Topological Sorts". To be submitted to **VLDB 2021**.

EXPERIENCE

Citadel LLC July 2019 - Present
Quantitative Trader

· Rewrote the simulation system and some strategy code using Python 3 and C++11 that resulted in a **15x speedup on simulation run times**.

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.**

AWARDS & ACADEMIC ACHIEVEMENTS

Won **first place in HackUST**, the biggest university hackathon in Asia.

Recieved the Academic Achievement Medal for being in the **top 2% of graduate CGAs**.

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.

RELEVANT COURSES

Undergraduate Courses
Algorithms
Operating Systems
Honors Software Engineering

Graduate Courses
Advanced Algorithmic Techniques
Introduction to Combinatorial Optimization
Machine Learning

STANDARDIZED TESTS

GRE: 330/340. (160 Verbal, 170 Quant, 5.0 AWA). **TOEFL**: 120/120.

PROGRAMMING LANGUAGES

Python, C++11, Familiar with Python web dev libraries.