

DAVID LIU

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EDUCATION

CARNEGIE MELLON UNIVERSITY

GPA: 3.22/4.00

 May 2020

 Pittsburgh, PA

- Majors: Mathematical Sciences, Statistics and Machine Learning
- Minor: Computer Science

COURSEWORK

Discrete Math
Mathematical Finance
Operations Research
Matrices and Linear Algebra
Modern Regression
Machine Learning
Imperative Programming
Functional Programming
Computer Systems
Theoretical Computer Science
Parallel Data Structure and Algorithm
Artificial Intelligence
Operations Management

SKILLS

PROGRAMMING

Python • C • SQL • Kusto • HTML/CSS • ~~TeX~~ •
Java • Javascript • R

TOOLS

Chinese (fluent) • Jupyter Notebook •
Git • Visual Studio

HACKATHONS

HackCMU (2016)
TartanHack (2017)
NBA Hackathon (2017)
Capital One Hackathon (2018)
CMU Quantathon Fourth Place (2018)


ACTIVITIES

President of Japanese Student Association
AKPsi Professional Business Fraternity
Club Basketball
Intramural Basketball (Undefeated)
Intramural Soccer
Go (third Duan)

PROFESSIONAL EXPERIENCE

MICROSOFT

Software Engineering Summer Intern


 May 2019 - August 2019

 Redmond, WA

- Dived deeply into Azure Cosmos DB's (Document DB) construction logic and developed two optimization recommendations (storage and idle duplication) by publishing and surfacing them on Azure Advisor and Power BI Dashboard
- Generated a one time 200k+ USD savings on the storage recommendation and the additional savings in the idle duplication identifier is estimated to be around 2 million USD
- Deployed Azure Data Factory pipelines and collaborated with Cosmos DB product group to surface data on multiple platforms

JET.COM

Fulfillment Engineering Summer Intern

 June 2018 - August 2018


 Hoboken, NJ

- Designed two Python statistical models to quantify material usage and carbon footprint impact of the CMC Boxing Machine
- Implemented machine learning algorithms and collaborated with Flow Managers from two different Fulfillment Centers to predict boxing and item data in the Warehouse Management Database
- Led development of three real-time dashboards that analyze the downtime and throughput of the CMC Boxing Machine

EXP II

International Education Strategy Intern

 July 2017 - February 2018

 Pittsburgh, PA

- Worked closely with Po-Shen Loh, the founder of ExpII, to design online math classes tailoring students of different age groups and skill levels all over the world
- Trained more than 50 undergraduate/graduate student TAs to teach 30 different online math classes live, so students can have a more interactive and friendly learning environment
- Designed course structures and more than 30 teaching notes for the TAs, so that non-professionals would be able to offer the students a better learning experience

PROJECTS

SMART SPENDING

IOS Developer

- Developed the Smart Spending App with a team of five at the Capital One Hackathon. The app puts restrictions on the card holders, only allowing them to spend money at selected vendors
- Adapted Capital One's Nessie API to track transactions and only make transactions from permitted vendors valid

CITY HOST AIRBNB

Data Analyst and Web Developer

- Developed dmliu16.github.io using HTML/CSS and Javascript to provide Airbnb hosts in San Francisco with valuable information on how to make the most out of their investments
- Utilized Jupyter Notebook and Python to analyze and discover correlations among seemingly irrelevant information