

SHAMIKH HOSSAIN

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EXPERIENCE

Valassis Digital (formerly MaxPoint)

Jun 2018 - Aug 2018

Software Engineer Intern, Platform & Services Team

Austin, TX

- Optimized distributed dataset generation job runtime and memory usage by 60%+ by leveraging Scala/Spark ML to redesign and implement ETL program for real-time bidding system's text-classification pipeline. Ensured backward compatibility/test coverage, analyzed performance metrics from Graphite/Grafana monitoring platforms using Python, pandas and matplotlib.

Duke Energy Data Analytics Lab

May 2017 - May 2018

Undergraduate Researcher, Data+ Summer Fellow

Durham, NC

- Developed techniques for predicting high-granularity household electrification rates from satellite imagery using machine learning
- Designed and implemented end-to-end machine learning pipeline to streamline feature extraction, selection, and dimensionality reduction using Python, pandas, scikit-learn, matplotlib and Jupyter notebooks, published open-source ground truth dataset
- Applied gradient boosting classification to predict electrification with .80 AUC using class-imbalanced, high-dimensional data

Duke Office of Information Technology: Innovation Co-Lab

Jan 2018 - Present

Developer, Technical Consultant

Durham, NC

- Designing and developing new web platform helping students find collaborators on projects/initiatives using Ruby on Rails
- Build and improve Co-Lab infrastructure, site, developer tools; hold technical advising office hours on full-stack development

Carin Lab Group at Duke University

Nov 2017 - Present

Undergraduate Researcher

Durham, NC

- Researching applications of deep learning techniques to Duke Hospital's medical datasets, advised by Dr. Lawrence Carin
- Developed/extended autoencoding NLP program using Python/TensorFlow for summarizing diagnoses from medical notes

Duke Office of Information Technology: Biology

Aug 2016 - May 2017

IT Consultant

Durham, NC

- Worked alongside full-time IT analysts to provide tailored hardware and software support for professors, staff, students
- Wrote documentation, trained new consultants, implemented department-wide software integrations and security updates

EDUCATION

Duke University

Aug 2016 - May 2020

B.S. in Computer Science, B.S. in Statistics, Minor in Economics

Coursework: Algorithms, Probability, Statistics, Regression Analysis, Data Structures, Linear Algebra, Discrete Mathematics

PERSONAL PROJECTS

SFPD Dispatch Analysis: Investigation of San Francisco emergency dispatch data to formulate solutions for improving response times. Recognized as top entry to Capital One MindSumo CS challenge. (Python, matplotlib, HTML/CSS/JS)

Kickback: Personal finance recommendation system built with Visa and Capital One APIs that uses transaction data to identify spending habits and provide relevant discounts. Winner of Capital One SWE Summit Hackathon. (Python, Flask)

HitChecker: Review tool for crowdsourced image annotation - drastically reduced time needed for dataset review/worker payment and ensured integrity of labeled data for Data+ research project. (Tkinter, Amazon Mechanical Turk API)

Politiquette: Chrome extension displaying on-hover interest group ratings for US senators on inequality issues (Flask, JS)

SKILLS

Software: Python (proficient); Java, Scala, C, Ruby (prior experience); Git

Data: NumPy, SciPy, pandas, matplotlib, Matlab, scikit-learn, R, Jupyter Notebook, Tableau, Excel

Web: HTML/CSS, JavaScript, Ruby on Rails, Django, Flask, Jenkins

Coursework: *Enthought Training:* SciPy & NumPy, *DeepLearning.ai:* Neural Networks & Deep Learning

OTHER

Activities: Planned and organized Duke Machine Learning Day, Duke's first workshop/research symposium event for ML. Director of Finance of Duke Undergraduate Machine Learning, organizing on-campus speaker events and fall datathon

Interests: Statistical modeling, API development, machine learning, distributed computing, high-dimensional data analysis

Recognition: IB Diploma, National AP Scholar, U.S. Presidential Scholar Candidate, Burger King McLamore Foundation Scholar, Dean's List, 3rd Place: Microsoft Coding Competition, 1st Place: Duke Research Computing Symposium Poster Competition, Health & Wellness Track Winner: HackDuke 2018

Events: Attended Capital One Software Engineering Summit (May 2018), AQR (Applied Quantitative Research) Capital Management Early Engagement Program (May 2018)

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