

SHAMIKH HOSSAIN

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EDUCATION

Duke University

2016 - 2020

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

Relevant Coursework: Data Structures & Algorithms, Probability, Discrete Mathematics, Computer Architecture, Microeconomics, Multivariable Calculus, Linear Algebra, Energy Data Analytics Lab, Economic Principles

EXPERIENCE

Valassis Digital

May 2018

Incoming Software Engineering Intern

Austin, TX

Duke Office of Information Technology: Innovation Co-Lab

Jan 2018 - Present

Developer, Technical Consultant

Durham, NC

- Develop university APIs, websites, and developer tools and hold weekly technical advising office hours for the student community.
- Contributing to development of Co-Lab homepage and project discovery platform in Ruby on Rails: <https://colab.duke.edu/>

Duke Energy Data Analytics Lab

May 2017 - Present

Research Associate, Data+ Fellow

Durham, NC

- Developed techniques for predicting electrification rates from satellite imagery using supervised learning/image processing
- Published ground-truth dataset, built and deployed data pipeline to streamline feature extraction and dimensionality reduction
- Applied gradient boosting classification model, grid search for hyperparameter selection, scaling and upsampling techniques to predict electrification with 80% ROC using a class imbalanced, high-dimensional dataset.

Carin Lab Group at Duke University

Nov 2017 - Present

Research Assistant

Durham, NC

- Applying newly developed deep-learning architectures to Duke medical datasets, advised by Dr. Lawrence Carin.
- Collaborating with graduate researchers in applying autoencoders to natural language processing problems using TensorFlow

Duke Office of Information Technology: Biology

Aug 2016 - May 2017

IT Consultant

Durham, NC

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

SELECT PROJECTS

SFPD Dispatch Analysis: Website with analysis/visualization of trends from the SFPD emergency dispatch dataset; uses insights to formulate solutions to improve emergency response times. Entry to MindSumo CS challenge, distinguished as a top submission by Capital One engineers for their SWE Summit. (Python, matplotlib, HTML/CSS/JS)

HitChecker: Review tool for crowdsourced image annotation data interfacing with Amazon Mechanical Turk allowing for efficient image task evaluation and Mechanical Turk worker payment. Drastically reduced time needed for dataset review and ensured integrity of ground-truth data. (Python, Tkinter, Amazon Mechanical Turk API)

Biology IT Inventory: Web platform & RESTful API for keeping track of helpdesk inventory equipment and users (Django)

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

SKILLS

Software: Python, Java (experienced); C, Ruby (familiar)

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

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

General: Git, Linux/Windows/Mac OS, Google Cloud Platform, Heroku

Coursework: *Coursera:* Machine Learning, *DeepLearning.ai:* Neural Networks & Deep Learning, *Lynda:* Django, Deploying TensorFlow Applications, *Enthought Training:* SciPy & NumPy, *Duke Health Collaborative Institutional Training Initiative:* Biomedical & Vulnerable Subject Research Certification, *Energy Data Analytics Lab:* Data Science Seminar

OTHER

Activities: Organized Duke Machine Learning Day, a workshop/research symposium event, as Director of Logistics

Interests: API development, machine learning, urban economics, high-dimensional data analysis, scientific computing

Recognition: IB Diploma Recipient, National AP Scholar (2x), U.S. Presidential Scholar Candidate, Burger King Scholar, Dean's List, Microsoft Coding Competition- 3rd (tie), Duke Research Computing Symposium Poster Competition- 1st

Events: Invited to Capital One Software Engineering Summit (May 2018), AQR (Applied Quantitative Research) Capital Management Early Engagement Program (May 2018), 2018 State Energy Conference of North Carolina (April 2018)