

# Shamikh Hossain

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## Objective

Aspiring data scientist and engineer interested in working at the interface of research and computation, tackling problems in energy and socioeconomics.

## Education

**Duke University**, Durham, NC - B.S, Computer Science, B.S, Economics  
August 2016 - May 2020

## Experience

**Carin Lab at Duke University** | Durham, NC | Research Assistant  
November 2017 - Present

Analyzing echocardiogram video data from Duke Hospital using TensorFlow and Keras under the supervision of Dr. Lawrence Carin and Dr. Ricardo Henao.

**Duke University Energy Data Analytics Lab** | Durham, NC | Research Fellow  
May 2017 - Present

Designed and implemented an **end-to-end machine learning pipeline** that streamlines data acquisition, evaluation and conversion in Python for end goal of **modeling electrification rates directly from aerial imagery**; worked in a team to curate a training **dataset** using image processing libraries, scikit-learn, Matlab, and ArcGIS. Currently continuing research to implement deep-learning model and develop georeferenced **electricity access maps** for developing regions.

**Duke Office of Information Technology** | Durham, NC | IT Consultant  
September 2016 - June 2017

Worked in a team using ServiceNow CRM platform to provide tailored **software and hardware support** for all computing in the Biology department by researching technical issues, writing internal and external documentation

**Dallas Area Model United Nations** | Dallas, TX | President & Tech Lead  
May 2015 - May 2016

**Supervised 20 member-team** to organize Model UN conference for high school students in Dallas metroplex. Managed **~\$11,000 budget**, built **web portal** and social media platform, implemented **merit-based team selection**

## Projects

**Biology IT Inventory** - **Web platform** and REST API built on Django, PostgreSQL to track loaner equipment inventory and users for the Duke Biology IT helpdesk

**Politiquette** - A Chrome browser **extension** that displays on-hover interest group ratings for selected issues for US Senators mentions on a page. (Flask/JS)

**HitChecker** - Python/Tkinter **program** using Amazon Mechanical Turk API to allow a user to efficiently evaluate crowdsourced image annotation data

**DAMUN Website** - Created new conference **website** for Model UN school organization, website was awarded grant from UN Foundation of America

**Web Tutorial Series** - maintained **YouTube channel** of tutorials on computer software and graphic design, accumulated 185,000+ video views

## Skills

**Software:** Python, Java (experienced)  
Ruby, C, MIPS Assembly (familiar)

**Data:** NumPy, SciPy, pandas, Excel,  
Matlab, scikit-learn, TensorFlow,  
matplotlib, R, Jupyter

**Web:** HTML/CSS, JavaScript,  
Rails, Django, Flask, Node.js

**General:** Git, Linux, Google  
Cloud Platform, AWS, Heroku

## Courses

Data Structures & Algorithms,  
Microeconomics, Computer  
Architecture, Linear Algebra for  
Computer Science, Multivariable  
Calculus for Economics, Energy Data  
Analytics Lab, Introduction to  
Computer Science

**Independent Coursework:**

Lynda: Django  
Enthought: NumPy  
Duke Health Biomedical/  
Vulnerable Subject Research  
Certification

## Recognition

University Dean's List  
National AP Scholar  
International Baccalaureate  
Diploma Recipient  
Burger King Scholar  
YouTube Partner  
3rd Place; Microsoft Coding  
Competition at Duke (tied)

## Leadership

Duke Machine Learning (DML) -  
Executive Board Member  
Student Organization Finance  
Committee (SOFC) - Auditor

## Interests

Full-stack development, data  
science, machine learning,  
cybersecurity, economic history,  
energy access, urban and  
development economics