

Shamikh Hossain

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EDUCATION

Duke University, Durham, NC

Aug 2016 – May 2020

- B.S. Computer Science, B.S. Economics
- Relevant Coursework: Data Structures & Algorithms, Computer Architecture, Microeconomics, Multivariable Calculus, Linear Algebra, Energy Data Analytics Lab, Economic Principles

EXPERIENCE

Duke Office of Information Technology: Innovation Co-Lab – Durham, NC

Incoming Jan 2018

Technical Consultant in Web Development

- Role related to university API and website development, technical advising for student community in weekly office-hours

Duke Energy Data Analytics Lab – Durham, NC

May 2017 – Present

Research Fellow

- Build open-source research software and analyze datasets relevant to energy access, remote sensing, and geospatial data
- Researching applications of image processing and supervised learning for modeling electrification rates from aerial imagery to enhance grid-planning efforts in developing regions by forming georeferenced electricity access visualizations
- Developed an end-to-end machine learning pipeline using HTML/CSS/JS, Python, scikit-learn, scikit-image, Matlab and ArcGIS to streamline image data acquisition through crowdsourcing, evaluation, and conversion to formats for analysis
- Worked in a team to implement pipeline to build open-source satellite imagery dataset for electricity access classification in NSF-funded research under Dr. Kyle Bradbury Initiative through Duke [DataPlus](#) program. [Dataset](#) | [Poster](#) | [Summary](#)

Carin Lab Group at Duke University – Durham, NC

Nov 2017 – Present

Research Assistant

- Researching applications of deep supervised learning methods under Dr. Lawrence Carin and Dr. Ricardo Henao of Duke Information Initiative, working with graduate researchers in applying the lab's past research to new datasets
- Working with patient data from Duke Hospital to automate menial medical report reviews with autoencoding and convolution-based natural language processing techniques using Python, TensorFlow, and Keras

Duke Office of Information Technology: Biology – Durham, NC

Aug 2016 – May 2017

IT Consultant

- Worked in a team using the ServiceNow CRM platform to provide tailored hardware and software support for research computing in Biology, Chemistry, and Evolutionary Anthropology laboratories, assisting staff, professors, and students
- Wrote internal and external documentation and troubleshooting guides, trained new consultants, researched technical issues, and implemented department-wide software integrations and security updates alongside full-time IT analysts

PROJECTS

- **HitChecker** – Review program for crowdsourced image annotation data interfacing with Amazon Mechanical Turk allowing for efficient image task evaluation and worker payment; drastically reduced time needed for dataset review
- **Biology IT Inventory** – Web [platform](#) and accompanying RESTful API built on Django for tracking helpdesk inventory
- **Politiquette** – Chrome extension displaying on-hover interest group ratings for US senators on inequality issues (Flask)
- **Tutorial Series** – personal YouTube [channel](#) of software and design-related tutorial videos, accumulated 185,000+ views
- **DAMUN Website** – Built new [website](#) for Model UN conference, led to outreach resulting in grant from UN Foundation

SKILLS

- **Software:** Python (experienced), Java (experienced), Ruby (familiar), C (familiar); **Data:** NumPy, SciPy, pandas, matplotlib, Excel, Matlab, scikit-learn, TensorFlow, R, Jupyter Notebook; **Web:** HTML/CSS, JavaScript, Ruby on Rails, Django, Flask, Node, Bootstrap, jQuery; **General:** Git, Linux, Google Cloud Platform, Heroku
- Independent Coursework: Lynda- Django, Enthought Training- NumPy, Duke Health/Collaborative Institutional Training Initiative- Biomedical & Vulnerable Subject Research Certification, Energy Data Analytics Lab Data Science Seminar

OTHER

- **Activities:** Duke Machine Learning (DML) Director of Logistics; Student Organization Finance (SOFC) Auditor
- **Interests:** Full-stack web development, software engineering, data science, machine learning, economic history, energy access, urban/development economics, electricity access, high-dimensional data analysis, math, scientific computing
- **Recognition:** IB Diploma, National AP Scholar, Dean's List, Microsoft Coding Competition at Duke- 3rd Place (tie)