

SHENGNAN HAN

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github.com/8192A

EDUCATION

Cornell Tech, New York, NY

May 2022

Dual M.S. with a Concentration in Connective Media | GPA: N/A

Vanderbilt University, Nashville, TN

May 2020

Bachelor of Science in Computer Science | GPA: 3.75

Bachelor of Science in Mathematics | GPA: 3.75

Relevant Coursework: Deep Learning, Machine Learning, Data Science, Cloud Computing, Algorithm, Web Dev

TECHNICAL SKILLS

Coding Languages:

Python, Java, C, C++, CSS, HTML, JavaScript, Lua

Operating Systems:

Windows, Linux

Other Tools:

TensorFlow, Keras, Scikit-Learn, ggplot, MongoDB, Node.js

PROJECTS

Kaggle Task: Naukri.com Jobs Distribution Analysis and Visualization, (Python, Matplotlib, geopandas, geoplot)

Fall 2020

An analysis to job data to connect job seekers to their professional interests

- Discovered recruitment preference of 10 industries by geovisualizing job distributions and experience requirements; ranked top 3 analysis in Naukri dataset on Kaggle by upvotes
- Guided job seekers to prepare for their professional interests by finding favored skillsets, urgent job recruitment, etc., with respect to different job roles in 10 industries using WordCloud, pie chart, etc.

Healing Internally-displaced Mothers in Abuja IDP Camp, (Data Flow, Data Management)

Spring 2020

A sustainable health care solution improving maternal health in Abuja IDP Camp

- Proposed Abuja IDP Data Management component that illustrated how and where data could be collected, transferred, and analyzed to effectively improve health solutions and enhance maternal health in form of data flow diagram
- Led implementation of the project and effective collaboration in 6 days; project was presented to 25+ teams and 14 professors; placed third in the 2020 Global Health Case Competition

New York City Airbnb Price Generator, (Python, Keras, Scikit-Learn)

Winter 2019

A machine learning project that generates an ideal price for Airbnb Hosts

- Forecasted reasonable price based on geolocation, neighborhood, length of stays, etc. by training and balancing outcomes from neural network, random forest and decision tree; three models were more generalizable than other candidates on selected features
- Improved raw dataset by cleaning invalid or unreasonable pricing data through comparing average neighbor price, house conditions, accessibility to public transportation, etc.

EXPERIENCE

Nanophotonic Lab, Deep Learning Research Assistant, Vanderbilt University, Nashville, TN

May 2019 - May 2020

- Accelerated metasurface inverse design process from 1 month through brute force method to 1 week through creating deep learning application by Keras and Meep
- Developed polar coordinate prediction methods that improved neural network performance by 13% and invented Adjoint State gradient descent optimizer which enable neural network to learn without a predefined dataset
- Automated data pipeline on AWS to generate and validate 4988 pairs of learning features and targets within 1 week
- Conducted A/B test on network structure, input/output formats and hyperparameters to optimize neural network performance

Vanderbilt University, Algorithm & Discrete Structure Teaching Assistant, Nashville, TN

Aug 2018 - May 2020

- Composed a visualization package tutorial that demonstrated runtimes and data structure for Java, Python, and C++, which is used by 200+ students
- Graded homework and exams 5+ hours per week and held office hour 2 hours per week

Bayer, Software Engineer Intern, Shanghai, China

May 2018 - Aug 2018

- Reinforced Bayer eWorkflow system reliability by designing 341 test cases against web application and database using Java and MySQL, which found 14 functional bugs and 2 data flow bugs
- Conducted Bayer Volunteer System design through Express.js for web development team and launched a prototype to test against projected scenario