Esha Shah

es999@cornell.edu // (201) 920-3292 // www.linkedin.com/in/esha-shah-450598237

EDUCATION

Cornell University/Bowers College of Computing and Information Science, Ithaca, NY *May 2026*
Bachelor of Science
Major: Computer Science *Minor:* Operations Research and Engineering
GPA: 4.02; Dean's List
Relevant Coursework: Natural Language Processing with Deep Learning; Probability and Statistics; Optimization; Object Oriented Programming and Data Structures; Functional Programming; **Pursuing Certification in AWS**

SKILLS

Languages: Python, Java JavaScript, TypeScript, HTML, LaTeX
Tools/Packages: PyTorch, NumPy, Pandas, Matplotlib, Git, Gurobi, React, Google Cloud Platform (GCP)
Technical: Machine Learning, LLM/NLP Operations, Data Analysis, Object Oriented Programming

WORK EXPERIENCE

Cornell University Scheduling | *Undergraduate Research Intern* *January 2024 – Present*

- Utilizing machine learning and integer programming to create optimized models that streamline the finals scheduling process for ~ 20,000 students at Cornell University
- Implementing rigorous feature engineering to ensure high-quality and accurate datasets
- Contributed ~ 1k lines of code and successfully reduced the number of exam conflicts by ~ 20%
- Awarded 1st place recognition in Engineering & Design by Cornell Undergraduate Research Board for research on refined parameter selection based off machine learning models trained on historical data

PROJECT EXPERIENCE

Neural Machine Translator *Python, NumPy, PyTorch, Tensorboard, Nvidia GPU*
A Neural Machine Translation (NMT) system for Mandarin Chinese → English translation utilizing a Seq2Seq model with attention mechanisms, achieving a BLEU Score of 20

- Encoding w/ bidirectional Long Short-Term Memory (LSTM) algorithm with bias
  Decoding w/ unidirectional LSTM with bias
- Utilized GPU-based training & testing

McDiver - A Sewer Navigation Program *Java, Swing*
A full-stack navigation system built to optimize paths based on user-selected parameters featuring object-oriented programming (OOP), concurrent programming, and a GUI for real-time visualization and user interaction

- Relevant data structures utilized include graphs, heaps, stacks, and maps
  Relevant algorithms utilized include Dijkstra's Algorithm and the A* Algorithm
- Improved efficiency by ~ 40% overall

Course Management System (CMSμ) *Java*
A simplified student-course management system, focusing on command-line enrollment management and data analysis.

- Relevant data structures utilized include linked lists and maps
- Implemented defensive programming and unit testing to protect integrity of student data

LEADERSHIP EXPERIENCE

Society of Women Engineers | *Director of Student Services,* Cornell University *September 2023 – Present*

- Leading 2 committees of 6 members each to meticulously organize, execute, and market General Body Meetings and social activities in collaboration with Cornell's project teams, professors, and well-known companies to support women in STEM and enhance hands-on exposure to the engineering fields

Girls Who Code | *Instructor,* Women in Computing at Cornell *February 2024– May 2024*

- Leveraged interactive instructional strategies to deliver engaging lessons on programming in Python to 30+ students in middle/high school
- Guided students in creating personalized projects, including chatbots and virtual card games, to apply their newly learned coding skills and foster creativity and problem-solving skills