MALAV PATEL

1307 Kingsbury Dr Unit C, Hanover Park, IL 60133 | (630) 359-1224 | malavpatel2022@u.northwestern.edu | https://malav-p.github.io/

Analytical and detail-oriented student passionate about industry trends in machine learning and scalable ML systems. Experience with personal projects using ML architectures and GPU programming. Eager to find work applying coursework in statistics, linear algebra, optimization, and machine learning to industry problems.

EDUCATION

Master of Science, Computer Science | Georgia Institute of Technology | GPA 4.0
January 2024 - April 2026

- Relevant coursework: Statistical Machine Learning, Mathematical Foundations of Machine Learning, Computational Data Analysis, Optimization

EXPERIENCE

Graduate Research Assistant| Space Systems Optimization Group | Atlanta, GA
August 2022 – Present

Utilizing/developing novel optimization schemes for satellite constellation design in cislunar space.

- Cislunar Satellite Constellation Design via Integer Linear Programming - Paper
- Concurrent Optimization of Satellite Phasing and Tasking for Cislunar Space Situational Awareness – Paper

GPT2 Personal Project | Self-Employed| Atlanta, GA
December 2023 – August 2024

Built OpenAI GPT2 from scratch in C++ as personal project. Optimized memory management via in-place memory transformations, KV-caching, inference optimizations. Strong understanding of transfomer model architecture. Code

CNN Personal Project| Self-Employed | Atlanta, GA
December 2021 – June 2022

Designed a library from scratch in C++ for the implementation of a convolutional neural network. Implemented trained model on MNIST dataset to 97.58% accuracy. Accelerated computations with BLAS routines. Accelerated training 3x via GPU programming using CUDA. Interfaced library with OpenCV to predict digits shown on a live video feed. Code

Chamberlain Group| Mechanical Engineering Intern | Chicago, IL
June 2021 – September 2021

Used Tensorflow package to analyze data taken on production line gearboxes to determine production faults. Measurement of torque and power input into gearboxes over time used as input layer to deep learning network. Created model 88 percent accurate.

SKILLS

- Python, C, C++, MATLAB, Julia, CUDA
- Pytorch, Tensorflow, OpenCV
- Deep Learning, NLP, Generative Modeling, Statistics
- Exceptional communication, Team Leadership, Research