

ADITYA GUPTA

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EDUCATION

New York University (NYU), New York - NY Aug 2025 - Present

Master of Science, Computer Engineering | **GPA** : 4.0/4.0

Courses: Machine Learning, Computer Vision, Reinforcement Learning, Image Processing, High Performance ML

Indian Institute of Technology (IIT) Bombay, Mumbai - IN Nov 2020 - May 2024

BTech, Mechanical Engineering & Minor, CSE | **GPA** : 9.09/10

Courses: Data Structures & Algorithms, Linear Algebra, Discrete Mathematics, Statistics, Stochastic Processes

TECHNICAL SKILLS

Programming Languages C/C++, CSS, HTML, Julia, MATLAB, SQL, Python

Frameworks Docker, Git, Kubernetes, PyTorch, CUDA, Scikit-learn, Tensorflow, Transformers

PROFESSIONAL EXPERIENCE

C3.ai | Machine Learning Internship May 2026 - Aug 2026

- Built a **template layer** for **C3 Code**, developing **skills** and context for zero-shot agentic app generation
- Designed generalizable **optimization workflows** spanning **MILP, convex, and nonlinear** problem formulations
- Architected **self-improving iteration loops** that robustly benchmarked generated applications against test cases

Mercedes-Benz | Software Development Engineer Oct 2024 - July 2025

- Managed Mercedes **Connected Cars** platform with 100+ remote commands and 10+ Java services on **Kubernetes**
- Built a **RAG**-powered **Mistral-7B AWS** platform with automated **CI/CD** workflows, reducing overhead by 50%

American Express | Machine Learning Internship May 2023 - July 2023

- Built an OLS-based hyperparameter tuning framework for MMM using **Dual Annealing** and Bayesian optimization
- Improved performance across 12 KPIs by **150%** and increased convergence stability by **35%** with a C-curve strategy

RESEARCH AND TECHNICAL PROJECTS

RL-based Planning Agents for Autonomous Vehicles Sept 2025 - Present

EMERGE Lab | Advisor: Prof. Eugene Vinitsky | Research Assistant

- Working on **PPO**-based, **LSTM**-augmented self-play algorithms to learn robust and generalizable driving policies
- Contributing to the development of **PufferDrive** simulator, adding features and scaling execution over **200k** SPS
- Core member for the development and public release of **PufferDrive 2.0**, a scalable autonomous driving simulator

Monocular Depth Estimation using Efficient Knowledge Distillation Jan 2026 - May 2026

Advisor: Prof. Zehra Sura | Course Project

- Designed a **white-box distillation** pipeline to compress Swin Transformers (**197M** to **28M**) using ImageNet-1k
- Applied **PTQ** and **LoRA** fine-tuning for monocular depth estimation, surpassing Intel's benchmark model

Carbon-Free Energy Systems Optimization Sept 2025 - Aug 2026

SET Lab | Advisor: Prof. Dharik Mallapragada | Research Project

- Built a **7-zone** CEM model in **Gurobi** for renewable energy & policy planning, and **REC** market elasticity analysis
- Scaled optimization to **100+** **zones** using a decentralized **ADMM**-based distributed optimization framework

Neural Speech Decoding with Transformer-based Classification Sept 2025 - Dec 2025

Advisor: Prof. Yao Wang | Course Project

- Developed a neural speech decoder by implementing **Swin Transformer** architecture over input ECoG signals
- Implemented **Contrastive Learning** based **SSL** pretraining pipeline for efficient spatio-temporal alignment

DrugProtAI: ML assisted Drug Discovery Predictor July 2024 - Oct 2024

Advisor: Prof. Sanjeeva Srivastava | Research Project

- Built a knowledgebase of **20K+** proteins leveraging novel **XGBoost** + **RF** classifier for ML-assisted drug discovery
- Authored** a research paper accepted in peer-reviewed journal **Briefings in Bioinformatics** (Oxford Academic)

SwiftNav: Novel Probabilistic Global Optimization Algorithm Jan 2024 - Sept 2024

Advisor: Prof. Debasish Chatterjee | Research Project

- Designed an **MCMC**-based optimizer scaling to **1,000+** dimensions with grid refinement and parallel processing
- Achieved up to **10×** faster convergence in high dimensions | **first-author** paper under review at **IEEE TSE**