

Amish Gupta

amishgupta@outlook.com | [+91 8734988712](tel:+918734988712) | [Github](#) | [Linkedin](#) | [Leetcode](#) | [Stackoverflow](#)

EDUCATION

BITS Pilani, Hyderabad Campus

(Dual Degree) B.E. Electronics & Comm. + Integrated M.Sc. Physics + Minor in Robotics & Automation 2019 - 2024

- **Relevant Coursework:** DSA, ML, Operating Systems, **Object Oriented Programming**, Applied Stochastic Processes, Probability & Statistics, Computational Physics, Linear Algebra & **Artificial Intelligence** for Robotics
- **8.5 CGPA:** Graduated with 25 extra credits beyond degree requirement (~1+ additional semester of coursework)

WORK EXPERIENCE

American Express, *Engineer III*

Aug 2024 – Present

- Completed the end-to-end designing & backend development & product advocate of SUAAS, an enterprise application that helps with bulk managing keys, secrets, scaling, restarting, etc. of all other services
 - Service saves 570 hours and \$6.2K per 1,000 secret changes (very conservative estimate)
- Currently working on an enterprise backend service that autonomously monitors, remediates, and alerts service owners by extending capabilities of **Kubernetes** (Custom Resource Definition) using operator pattern, ensuring high availability and reliability of services
 - Deployment is projected to cut mean time to resolution by over 90%.
- Resolved critical workflow bottleneck by migrating **LangChain** flow to **LangGraph** with parallelisation, enabling faster, more customisable Runbook generation

Piramal Finance, *Backend SDE Intern*

Jan 2024 – June 2024

- Integrated a feature to the payments team that empowers internal users to conduct independent testing on production by removing dependencies on other teams
- Contributed to the payments team's infrastructure improvements by resolving database field issues, rectifying Sonarqube blockers & enhanced API documentation and accessibility by integrating Swagger

Reckitt Benckiser, *Data Engineering Intern*

May 2023 – Dec 2023

- Worked with the development of TRIQ, an application for tailored data-preprocessing for quality checks using Azure Databricks & Python.
- Additionally engineered **Python** scripts, created the data models, modified KPIs for streamlined data management in Power BI and created the dashboard, improving reporting capabilities of TRIQ. Collaborated on SharePoint for data sharing and accessibility for the entire DE team.

JSW Steel, *Engineering Intern*

June 2021 – July 2021

- Implemented prediction algorithms to predict the properties of electrical steel; performed data-preprocessing and implemented five different algorithms to predict properties of electrical steel in a team of 3.

BITS Pilani, Hyderabad Campus, *Teaching Assistant*

(Thrice)

- (Sept 2022 - Dec 2022): Took **python** classes, taught them the basics of the language, and prepared assignments
- (Feb 2022 - May 2022): **Built animations** for physics experiments of a lab course as the students had an online semester
- (March 2021 - April 2021): Assisted my physics professor, took **tutorial** classes for first-year students in physics, cleared their doubts, and prepared reading materials for them

TECHNICAL SKILLS

Python, Data Structures & Algorithms, **FastAPI**, **Backend Development**, Machine Learning, Golang, **Kubernetes**, **Redis**, **MongoDb**, PostgreSQL, C, PowerBI, PySpark, ML Libraries (Pandas, NumPy, Sci-kit, Keras), Data Science, **Langgraph**, **Langchain**, WiX, Dart, MATLAB, Javascript, Java, Frontend, Artificial Intelligence, Git, Docker, Communication Skills, Flutter, Teamwork, **Problem Solving**, Agile, **LLMs**, OpenAI, RAG, **Agentic AI Development**

PROJECTS

ChartChats, *Founding Software Development Engineer*

Mar 2025 – Aug 2025

- Made the entire backend & infrastructure for a financial **agent** that can plot indicators, create chart patterns, screen stocks, and give analysis, all through an NLP query. Used Python, **FastAPI**, **LangGraph**, **Redis**, **MongoDb**, **Railway Cloud**
 - Made **agentami** framework and opensourced it along the way.
 - Achieved safe, zero-downtime scaling from 10 to 800 users within a few days.

Solving Traveling-Salesman

- Used **genetic algorithm (unsupervised learning)** to solve traveling salesman problem, Integrated cellular automaton to enhance
 - Achieved 60%+ path optimization over 50 generations

Edge-Detection Algorithm

- Implemented a program to determine the edges of an image using different kernels without much aid from pre-built libraries

Tweeting Mechanoid

- Made a twitter bot account that uses open-source generative AI models to post tweets on its own

Biped Gait Generation (Study oriented project)

- Learned the dynamics of walking and using reinforcement learning-like algorithms to replicate it for a 2-Dimensional problem for a robot walking in a simulated environment. An informal study-oriented project

Youtube Inshorts

- Made a script that auto generates summarised news & and an AI voice reads it
 - Garnered approximately 149,000 lifetime views