

DEEPANKAR GUPTA

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EDUCATION

The National Institute of Engineering, Mysuru

2023 – Present

B.E. in Computer Science & Artificial Intelligence, CGPA: 9.13

RELEVANT COURSEWORK

- Data Structures
- Database Management
- Operating Systems
- Software Engineering
- Machine Learning
- Deep Learning
- Computer Vision
- Large Language Models

EXPERIENCE

Research Intern – NIE-FH Dortmund International Collaboration

June 2025 – Present

- Developed and fine-tuned the YOLOv8s object detection model on a custom parking lot dataset, achieving near-perfect detection accuracy under varying daylight and environmental conditions.
- Optimized model inference using ONNX-based CPU acceleration for faster deployment.
- Currently deploying the solution in real-world environment at the NIE North Campus, integrating live CCTV feeds for automated detection.
- Awarded a research grant by NIE–Centre for Research and Development for this project.
- Co-authoring a research paper based on this work under the ongoing NIE–FH Dortmund collaboration.

PROJECTS

- **Large Language Model from Scratch** *PyTorch, Python, Deep Learning*
 - Built a GPT-2.0 transformer model from the ground up, implementing core components including the tokenizer, transformer layers, attention mechanisms, GELU, and top-k sampling for text generation.
 - Trained a 124-million parameter model on a cleaned Alpaca-formatted dataset, managing the end-to-end training and inference pipeline.
- **YouTube Comment Sentiment Analyzer** *Python, LightGBM, MLflow, DVC, AWS, Docker, CI/CD*
 - Built an NLP-based sentiment analysis system for YouTube comments with TF-IDF vectorization and LightGBM after extensive EDA.
 - Used MLflow for experiment tracking on AWS EC2 and logged artifacts in S3 for reproducibility and monitoring.
 - Implemented end-to-end ML pipelines with DVC, automated CI/CD using GitHub Actions, and containerized the app with Docker.
 - Deployed the system using AWS services and developed a Chrome extension for real-time predictions.

TECHNICAL SKILLS

Languages	Python, C++, SQL
Frameworks & Libraries	Flask, Streamlit, PyTorch, LangChain, Selenium, BeautifulSoup
MLOps & Deployment	Git, Docker, Github Actions, MLflow, DVC, AWS (EC2, ECR, RDS, CodeDeploy)
Databases	MySQL, SQLite
Development Tools	PyCharm, Jupyter Notebook, VS Code

ACHIEVEMENTS

- Secured **AIR 73** in the National Entrepreneurship Olympiad (IIT Bombay) out of 100k+ participants.
- Achieved NISM RA XV Certification from the NISM with a score of 70.5%.
- Solved **500+ DSA problems** on LeetCode and GeeksforGeeks, building strong algorithmic foundations.
- Placed in the **top 3%** among over 1.2 million candidates in the JEE Mains engineering examination.

EXTRACURRICULAR

- As **Editorial Lead** at the Anveshan Research Club (NIE Mysuru), created an automatic blog generation system using n8n to streamline and scale content publishing.