Anushka Tawte

Machine Learning Engineer, New York

+1 347-864-6010 | at5849@nyu.edu | linkedin.com/in/anushka-tawte | surelyanushka.github.io/Portfolio/

Education

New York University, New York May 2025
Master of Science in Computer Science *GPA: 3.75*

- Coursework: Machine Learning, Data Science, Big Data, Decision Models and Analytics (NYU Stern), Open Source

University of Mumbai, Mumbai, India August 2019 – July 2023
Bachelor of Engineering in Computer Engineering *GPA: 3.8*

- Coursework: Artificial Intelligence, Quantitative Analysis, ML, Deep Learning, Natural Language Processing

Technical Skills

Languages and Platforms: Python, SQL, R, C++, C, JavaScript, Java, Bash, HTML/CSS, GCP, AWS (EC2, S3)
Database Systems and Tools: PostgreSQL, MongoDB, MySQL, Linux/Unix, Windows, Git
Technologies/Frameworks: Tableau, PyTorch, Dask, Spark, Scikit Learn, LLMs, RAGs, Tensorflow, OpenCV
Algorithms: Decision Trees, Random Forests, Neural Networks, KNN, K-means, DBSCAN, Regression, ARIMA
Certifications: Machine Learning with DeepLearning.ai, 30 days of Google Cloud, Python 3

Experience

Visualization Researcher November 2024 – Present
VIDA Lab @NYU

- Developed a tool for multi-scale visualization of cells using a **GPU-based** approach, cutting load times by **85%**.
- Reduced rendering time by 65% through optimizing semantic zooming within a visualization tool for **1M+ single-cell embeddings**.
- Implemented interactive clustering to highlight cancer cell similarities and allow detailed drill-down views.

Software Developer August 2020 – November 2022
Technical Team SIESGST

- Migrated app from **Java to Kotlin**, improving maintainability by 23%.
- Expanded user base by **250%** using Android's **Jetpack Compose** toolkit for modern UI/UX design.

Projects

Voice Cloning using Transformer Models September 2024 – December 2024

- Developed a personalized TTS model using XTTS for ALS patients, fine-tuning for multiple accents and achieving a 30% lower overall loss within 6k training steps.

NYC Car Crash Detection March 2024 – May 2024

- Leveraged **Spark and Dask ML** to analyze traffic, weather, and historical crash data; built a Random Forest model predicting accident hotspots (F1 score: 0.72).
- Created an interactive dashboard with Streamlit to visualize real-time data for strategic decision-making.

Fashion AId: Personal Outfit Recommender April 2024 – May 2024

- Won a hackathon with over a 100 participants from NY for a personalized outfit recommender project.
- Engineered a solution using Gemini 1.5 Pro and Stable Diffusion for advanced text-to-image generation, enhancing accessibility for visually impaired users.

SpineScan AI July 2022 – April 2023

- Built an application for automated cervical fracture detection, integrating **YOLOv5** object detection and achieving an **86%** accuracy rate in fracture identification.
- Refined the application by incorporating a Convolutional Neural Network (CNN) with a **U-Net** architecture and **EfficientNet encoder**, achieving a precise **95.19** correctness in segmenting cervical spine sections.

Malware Detection with Neural Networks July 2021 – February 2022

- Engineered a CNN-based image analysis method achieving a **91.7%** accuracy rate for malware detection via binary representational images.
- Authored a paper published in **IEEE Xplore** demonstrating research capabilities and security innovation [link].