Neha Mittal

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Chancellor's Bronze Medalist, BITS Pilani Hyderabad Campus

Professional Summary

Data Scientist with experience building and optimizing NLP and LLM-based models at Microsoft for Copilot enterprise search. Skilled in applied machine learning, experimentation, and model optimization; from research and prototyping to production-scale deployment. Strong background in Python, PyTorch, and Azure ML, with a deep interest in GenAI, conversational AI, and intelligent agent systems. Passionate about creating AI-driven experiences that learn, reason, and assist users in meaningful ways.

Experience

Microsoft — **Bengaluru, India**

Data Scientist — *Aug 2024 – Sept 2025*

- Developed and fine-tuned intent classification and NLP models powering Copilot enterprise search across Microsoft 365.
- Designed and ran large-scale model experiments to evaluate accuracy, relevance, and latency across production environments.
- Applied LLMs for intent disambiguation and query understanding, improving search satisfaction and relevance coverage.
- Collaborated with engineers to integrate models into real-time systems and evaluate model performance post-deployment.

Apple — **Bengaluru, India**

Software Development Intern — *Jan 2024 – Jun 2024*

- Worked on power management and low-level system optimization, improving device responsiveness and energy efficiency.

Microsoft — **Bengaluru, India**

Data Scientist Intern — *Jun 2023 – Jul 2023*

- Built an Azure ML pipeline leveraging LLMs for auto-tagging unlabeled enterprise data.
- Conducted A/B experiments validating improved query discoverability and retrieval accuracy.

UST Global — **Trivandrum, India**

Software Development Intern — *May 2022 – Jul 2022*

- Built a generative AI-based summarization system using GPT-3, integrating NLP backend with AngularJS frontend.

Education

Birla Institute of Technology and Science, Pilani – Hyderabad Campus

B.E. in Electrical and Electronics Engineering — *Aug 2020 – Aug 2024*

CGPA: 9.46 / 10

- Minor in Computing and Intelligence
- Chancellor's Bronze Medal – 3rd rank in graduating class of 2024
- Merit Scholarship for consistent academic excellence

Projects

Video Analytics Platform for Smart Querying

- Built a two-stage video classification pipeline using CNNs for object detection and frame-level relevance filtering.

Scalable Synthetic Data Generation for Imbalanced Datasets

- Implemented distributed SMOTE using locality-sensitive hashing (LSH) to improve minority-class recall by 15%.

Epileptic Seizure Classification via EEG Signals

- Converted EEG signals into scalograms and trained CNN models to classify seizure states for real-time monitoring.

Publications

IEEE ICCCNT 2023: *Investigation of YOLO Models for Detection and Classification of Road Anomalies.* Achieved 90%+ detection accuracy across multiple anomaly types; identified YOLOv6s as optimal for real-time applications.

Technical Skills

Languages: Python, SQL, C++, C
Machine Learning: PyTorch, TensorFlow, Hugging Face, Azure ML, OpenAI APIs
Specializations: NLP, LLMs, GenAI, Intent Classification, Model Optimization, A/B Testing
Tools: LangChain, Apache Spark, Git, Azure DevOps, Power BI