Niranjan Kumar Kishore Kumar

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Education

Yeshiva University **Sept 2023 - May 2025**
Master of Science in Artificial Intelligence, GPA:3.8/4.0 *New York, NY*

Anna University **Sept 2017 - May 2021**
Bachelors in Biomedical Engineering *Chennai, India*

Work Experience

S&P Global **May 2024 - Aug 2024**
Machine Learning Research Intern *New York, NY*

- Conducted in-depth research on recent state-of-the-art(SOTA) time series models (DLinear& NLinear), validated their effectiveness against traditional models like ARIMA and LSTM in both accuracy and computational efficiency.
- Developed Python automation scripts for data collection and preprocessing, reducing manual tasks by 30%.
- Designed end-to-end predictive modeling pipelines for financial forecasting, improving model accuracy by 80%.
- Enhanced model performance, achieving 4x improvement on the Exchange Rate and 17x on Moody's Aaa dataset.

Billroth Hospitals **April 2022 - Dec 2022**
Biomedical Data Analyst *Chennai, India*

- Developed **Python ETL pipelines** to streamline biomedical data collection processes, increasing accuracy by 75% and enabling comprehensive analysis for clinical applications in patient care.
- Performed **exploratory data analysis (EDA)** to ensure data quality for biomedical imaging and machine learning applications.
- Designed & implemented a dynamic dashboard using **Python and Power BI** to monitor the performance of biomedical devices, facilitating proactive maintenance and ensuring seamless system functionality.
- Optimized **medical imaging** workflows to enhance accuracy and decision-making.

Projects

Music Generation Using Latent Diffusion Models | *Python, PyTorch, Hugging Face, AudioLDM2*
- Developed a music generation model using the AudioLDM2 architecture, fine-tuning it on the MusicNet dataset.
- Implemented **knowledge distillation** for a lightweight student model, enhancing audio quality and inference efficiency.

Image Segmentation for Bird Sound Dataset | *Python, OpenCV, PyTorch*
- Designed a ResNet34-based Encoder-Decoder model achieving IoU of 0.6225 and Dice Coefficient of 0.7442.
- Optimized PyTorch data pipelines for efficient loading and transformation of spectrogram images.

Prediction of Vertebral Heart Score (VHS) Using Deep Learning CNN | *Python, OpenCV, PyTorch*
- Developed a deep learning model EffNetB7 with 86.25% accuracy, outperforming InceptionV3 & ResNet50.
- Fine-tuned model parameters and applied image processing techniques to enhance diagnostic robustness.

Breast Cancer Prediction | *Python, Jupyter Notebook, AWS*
- Implemented a full ML pipeline for AWS deployment using Docker and GitHub Actions.
- Automated CI/CD for scalable and reliable model delivery on AWS EC2 instances.

Skills

Languages: Python, MATLAB, R, SQL
Technical skills: Machine & Deep Learning, Object detection & Image Segmentation, NLP, Time series forecasting
Tools & Frameworks: OpenCV, PyTorch, TensorFlow, AWS, Power BI, Data Annotation Tool (AWS Sagemaker GroundTruth), GitHub, VS Code, Jupyter Notebook
Generative AI/ LLMs: API interactions, HuggingFace Transformers, Vector Embeddings, LangChain/LlamaIndex, LangGraph, Agentic AI, Prompt engineering, Fine-tuning, RAG, Quantization, LLMOps, Application development, AWS Bedrock & Sagemaker, Google Vertex AI
Soft Skills: Teamwork, Communication, Collaboration, Problem-Solving, Troubleshooting, Creative Thinking

Certifications and Awards

AWS Certified Machine Learning Engineer Associate (MLA-C01), October 2024 [**View Certification**]
Oracle Cloud Infrastructure Generative AI Certified Professional, July 2024 [**View Certification**]
1st Place, Generative AI Hackathon – UC Berkeley AI Summit, Spring 2023 [**View Source**]
3rd Place, Cloudera AI Hackathon – Cloudera Evolve 24, Fall 2024 [**View Project**]
Participant, Voxel51 Hackathon – Clinical PPE Detection, Fall 2024 [**View Project**] [**View Demo**]
Department of Artificial Intelligence Scholarship, Yeshiva University, 2023