NACHIKETA HEBBAR

nhebbar@andrew.cmu.edu| (412)-224-7550| LinkedIn Profile

Education

CARNEGIE MELLON UNIVERSITY, HEINZ COLLEGE Pittsburgh, PA
Master of Information Systems Management| GPA: 3.9/4 Aug 2023 – Dec 2024
Relevant Coursework: Java Programming, Generative AI, Machine Learning in Production, Data Focused Python, Statistics

VELLORE INSTITUTE OF TECHNOLOGY UNIVERSITY Tamil Nadu, IN
Bachelor of Technology in Electronics and Communications | GPA: 8.52/10 Jul 2017 – Jul 2021
Relevant Coursework: Problem Solving and Programming, Data Structures, Cloud Computing, Neural Networks and Deep

Skills

Languages and Tools: Python, C++, Java, R, SQL, MATLAB, Tableau, PowerBI, Apache Airflow , GCP, Microsoft Azure, AWS, Kafka
Libraries and Frameworks: Tensorflow, PyTorch, Keras, Langchain, Numpy, Darknet, Pandas, Spark, Git, Hadoop, MLFlow, Flask, FastAPI
Techniques: Statistical Analysis, Predictive Modelling, Data Mining, Algorithm Optimization, Finetuning, NLP, Data Analytics

Professional Experience

Superkind, Inc California, CA
Machine Learning Intern May 2024 – Aug 2024

- [Object Detection] Enhanced image recognition models for fashion and furniture datasets, achieving a 20% increase in detection accuracy. Fine-tuned state-of-the-art models like YOLOv8 and v9, combined with advanced data augmentation techniques
- [Transformers, Large Language Models] Developed custom transformer models by fine-tuning BERT and DEBERTA models in PyTorch. Upgraded accuracy of multilabel classification tasks by 25% on unstructured datasets
- [Search Engine, Vector AI] Architected an image search engine utilizing image embeddings from OPEN AI's CLIP model, boosting text-based query accuracy by 60% with a custom Retrieval-Augmented Generation (RAG) pipeline.
- [Recommendation System, Data Science] Engineered content-based filtering recommendation system through A/B testing of KNN search and clustering on image embeddings, increasing daily user interaction by over 3.5 times

Awiros Gurgaon, IN
Senior Artificial Intelligence Engineer Mar 2021 – Apr 2023

- [Deep Learning, Computer Vision] Designed and deployed end-to-end computer vision systems for 15 smart cities, elevating model inference speed by 30% through advanced benchmarking and A/B testing
- [AI Model Optimization, Multiprocessing] Optimized inferencing time by up to 50% with NVIDIA TensorRT and ONNX. Architected a low-code SDK for converting object detection models to ONNX, enhancing conversion efficiency by 30%
- [Python, Image Processing] Engineered vehicle classification, number plate recognition, and pose detection models with TensorFlow, PyTorch, and OpenCV, achieving a 12% increase in MAP via data version control and transfer learning
- [MLOps, DevOps] Implemented data version control systems and model tracking platforms like weights and biases, leading to an average of 12% increase in MAP of deep learning models
- [Cloud computing, Team management] Led a team of 10+ engineers and collaborated with cross-functional teams to deliver scalable AI solutions, implementing workflows using Docker, Kubernetes, and distributed computing frameworks

Project And Research Experience

Capstone Project, Nexteer Automotive Aug 2024- Dec 2024

- [Natural Language Processing, Prompt Engineering] Built a centralized chatbot dispatcher using embedding-based similarity search, reducing query resolution times by 40% and optimizing routing accuracy with vector databases (ChromaDB).

Scalable Movie Recommendation System, Carnegie Mellon University Sep 2024- Dec 2024

- [Data Engineering, ETL Pipelines] Designed a Kafka-based data pipeline to process 1 million daily requests of user-movie interactions, performing feature engineering and preparing data for real-time machine learning models
- [ML Deployment] Built CI/CD pipelines for automated retraining, deployment, and monitoring, ensuring real-time tracking of model accuracy and improving system availability by 15%

Skin cancer detection using machine learning and deep learning techniques, Springer Dec 2019 - Apr 2022

- [Predictive Models, AI] Headed research on a novel technique of skin cancer diagnosis by combining feature extraction of supervised learning techniques like Support Vector Machines, Logistic Regression, and CNN (DOI: 10.1007/s11042-023-14697-3)

Activities And Achievements

- [Communication, Professional Speaking] Taught Machine Learning courses with 1M+ views to 20k+ active learners on YouTube
- [Research, Presentation] Authored **3 research papers** on machine learning and deep learning techniques, with 100+ citations. Published and presented in leading journals and conferences such as *Multimedia Tools and Applications* and IEEE