NACHIKETA HEBBAR

Portfolio| nachihebbar@gmail.com| LinkedIn Profile

Education

Carnegie Mellon University Pittsburgh, PA
Master of Information Systems Management | GPA: 3.9/4 Aug 2023 – Dec 2024
Relevant Coursework**:** Generative AI, Distributed Systems, Machine Learning in Production, Data Focused Python, Statistics

Vellore Institute of Technology 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, Artificial Intelligence

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: Recommendations, Predictive Modelling, Data Mining, Machine Learning, Finetuning, NLP, Data Analytics, Deep Learning

Professional Experience

TikTok (ByteDance) California, CA
Machine Learning Engineer 2 Mar 2025 – Present

- [Recommendation Systems] Optimized the complete recommendation stack from candidate generation, ranking, post-ranking to content filtering for location-based content, improving geo-personalized relevance across the TikTok "For You" Page
- [Experimentation, A/B Testing] Led large-traffic ML experiments and A/B tests improving both engagement and interaction (e.g., share, comment, follow) metrics by over 30%+ with 18× reduction in irrelevant recommendations
- [Machine learning, Location Intelligence] Integrated a POI-tagging model to automatically extract locations from video metadata and classify local service content, enhancing targeting precision

Awiros Gurgaon, IN
Computer Vision 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, C++] 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 of object detection and image classification models
- [MLOps, DevOps] Implemented data version control and model performance monitoring, reducing model training time by 20% [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

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

- [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 Database] Architected a multimodal image search engine utilizing image embeddings from OPEN AI's CLIP model, boosting text-based image retrieval by 60% with Google Chroma and PostgreSQL vector databases

Project And Research Experience

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 setting automated pipeline for training real-time machine learning models

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 3M views to 25k+ active learners on YouTube
- [Research, Presentation] Authored **3 research papers** on applying machine learning techniques in healthcare, with 100+ citations.
- [Data visualization, Data modelling] Won 2nd place at CMU AI Sustainability Hackathon(250+ participants) by building a tool to forecast and optimize AI model CO_2 emissions