Naveenkumar Narsozhan

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Education

University of Southern California
Master of Science in Computer Science — August 2025 - May 2027

National Institute of Technology, Puducherry — CGPA: 9.3/10.0
B.Tech in Computer Science and Engineering — December 2020 - May 2024

Coursework: Artificial Intelligence and Expert Systems, Soft Computing Techniques, Pattern Recognition, Machine Learning, Deep Learning, Big Data Analytics

Skills

Programming: Python, C, C++, C#, MS-SQL
Python Modules: pandas, numpy, matplotlib, seaborn, scikit-learn, XGBoost, TensorFlow, Keras, Pytorch, nltk, spaCy, Transformers, Stable Baselines3, Gym

Experience

HCL Tech — September 2024 – July 2025
Technical Lead — Madurai, Tamil Nadu, India

- Completed an intensive full-stack training program in the **Microsoft ecosystem** (**C#**, **.NET**, **Angular**, **Microsoft SQL Server**); built a capstone project simulating enterprise workflows and large-scale system design.
- Trained in **Microsoft Azure** services, including **App Service**, **Azure SQL Database**, and **Azure DevOps**, gaining expertise in **cloud migration** and **deployment pipelines**.
- Contributed to migrating a legacy corporate website (**50K+ monthly users**) from on-premise servers to the Azure platform, improving availability and reducing infrastructure costs by an estimated **20%**.

National Institute of Ocean Technology (NIOT) — May 2023 – June 2023
Machine Learning Research Intern — Chennai, India

- Performed extensive **exploratory data analysis (EDA)** on **1 Million+ meteorological and oceanographic data points** to study factors influencing **fuel efficiency in ship routing**.
- Developed a robust **data preprocessing pipeline** to clean, integrate, and normalize raw datasets (**CSV → Excel transformation**, handling missing values, feature scaling).
- Analyzed ship trajectory data in conjunction with environmental features, identifying key variables impacting **optimal maritime navigation**.

Projects

COVID-19 & Pneumonia Classification from Chest X-rays — October 2023 – November 2023

- Designed and implemented a two-stage **Convolutional Neural Network (CNN)** pipeline for automated medical image classification, handling dataset across **three categories**: Normal, COVID-19, and Viral Pneumonia.
- Engineered **Classifier 1** for abnormality detection (Normal vs. Abnormal) achieving **91% accuracy**, followed by **Classifier 2** for disease specification (COVID-19 vs. Viral Pneumonia) attaining **96% accuracy**.
- Optimized model architecture with **convolutional, max-pooling, dropout, and dense layers**, applying regularization techniques to prevent overfitting on a small medical dataset.

Aerial Image to Map Translation — December 2023 – January 2024

- Studied original **Pix2Pix research paper** and implemented **conditional GAN** to translate **aerial imagery** into **cartographic maps**.
- Conducted extensive training and fine-tuning of model on **specialized geo-spatial datasets**, delivering high-quality outputs optimized for **practical mapping applications**.
- Validated model by reproducing **high-fidelity map outputs**, demonstrating practical understanding of **Pix2Pix architecture** and **image-to-image translation** principles.

Valorant Strategy Assistant – RAG Chatbot — September 2025 – Present

- Built a **Retrieval-Augmented Generation (RAG)** system using **sentence-transformers** and **ChromaDB**, indexing **50+ Valorant knowledge documents** for low-latency semantic search.
- Integrated a quantized **7B parameter Mistral LLM** on Google Colab, optimizing prompt construction and achieving a **30% faster inference pipeline**.
- Developed a **context-aware Q&A chatbot** that delivers accurate, strategy-focused answers and minimizes irrelevant responses to improve user experience.