

N K Vamsi Krishna

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EDUCATION

University of Pennsylvania

Philadelphia, PA, USA

Master of Science in Engineering (MSE), Data Science

August 2025 – May 2027

Courses: CIS 5210 Artificial Intelligence, CIS 5450 Big Data Analytics, ESE 5420 Statistics for Data Science

Highlights: Teaching Assistant for CIS 5150 — Fundamentals of Linear Algebra and Optimization

Indian Institute of Technology, Madras

Chennai, India

Bachelor of Science - Data Science & Applications; GPA: 3.91/4.0

January 2021 – April 2025

Courses: DL, RL, AI-Search Methods, Machine Learning Foundations, Data Structures & Algorithms, Programming in C++, Java, DBMS

Highlights: Academic Merit Certificate; Awarded for securing top 1% GPA

National University of Singapore

Singapore

Global Academic Internship Program — Data Analytics Using Deep Learning

June 2023

On-campus 3-week NUS SoC program; seminars + capstone project; **The Best performer in a 100-member cohort.**

PROFESSIONAL EXPERIENCE

S2T AI - AI Powered Investigations

Singapore

Software Engineer

Dec 2024 – Aug 2025

- Built a **Knowledge Graph-RAG microservice** for semantic search over documents and database; Also developed an **Agentic AI Chat Assistant** with **Generative UI** in model response which was in compliance with industry standards.
- Developed an **AI ETL service** for human queries (NL) on semi/unstructured data with visual charts; created **React + Tailwind** microfrontends; Performed API development of **8 Kubernetes microservices** deployed via **Azure DevOps**.
- Enhanced audio spoofing detection accuracy by **15%**, and implemented diarization, VAD, and noise estimation modules.

Vessel Match (Startup) 📄 Site Link

Chennai, India

Founder & CEO

May 2024 – Jun 2025

- Founded and led **Vessel Match**, a **full stack AI platform** automating vessel/cargo matching and pre-fixture workflows — achieving **100% automation** and eliminating manual email-based searches. **Incubated at Nirmaan IIT Madras.**
- Processed **200+ vessels** and **150+ cargo listings** daily in trials, forged **5 industry partnerships**, and secured INR 700,000 **seed funding** + \$2K AWS credits. **Led all technical development**, architecture, and AI efforts.

32Mins Digital Consultancy Services Pvt Ltd

Chennai, India

AI Engineer Intern

Feb 2024 – May 2024

- Built a **Speech-to-Speech Translation tool** supporting 12 Indic languages for dubbing, leveraging **AI4Bharat models**, with segmentation, language detection, ASR, NMT, TTS, pitch correction, and gender detection.
- Processed **500+ hours of video**, cutting dubbing time from **months to days**; piloted successfully with **Indian Parliament**.

PROJECTS

GuruHeal 📄 Presentation 📄 Code

May 2025

Developed an AI-powered wellness platform through full-stack development featuring multilingual chat, real-time web search with citations, and personalized Ayurvedic recommendations. Architected as microservices with a **Graph RAG knowledge base** and a **web search agent**. **Generative UI** with smart AI product recommendations and appointment bookings.

Next.js · PydanticAI · TypeScript · JavaScript · Figma · FastAPI · Supabase · Redis · RAG · Git

NER-RAG System 📄 Backend 📄 Frontend

Dec 2024

Built an end-to-end microservices-based **Natural Language Processing** pipeline to extract entities, map relationships, and provide **context-enriched answers**. Integrated a **Next.js** frontend along with Node for NER graph visualization and a **RAG Q&A interface**. Leveraged lightweight LLMs and structured data with **Pydantic** for scalability and real-time insights.

Python · Next.js · Tailwind CSS · React Force Graph · SQL · Docker · Pinecone · Pydantic

Gesture 📄 Code

July 2024

Computer **Vision** based **presentation tool** enabling hands-free navigation via hand gestures classified through an **ANN**. Developed a **Flask** backend that is publicly exposed. Added a **React Native** app to stream video from mobile phones for classrooms without inbuilt cameras. Primarily for **differently-abled users** to control devices.

Python · OpenCV · Google Mediapipe · Tensorflow · PyAutoGUI · Flask · React Native

RESEARCH EXPERIENCE

Machine Learning and Ensemble Techniques for Water Quality Analysis of Korattur Lake

📄 Code

Published at IEEE 4th GCAT 2023 Conference 📄 Link

- **Summary:** Evaluated ML models (XGBoost, KNN, Decision Tree Bagging, SVC Bagging, AdaBoost) for analyzing water quality data, focusing on accuracy and computational efficiency.

Novel Prospect Theory-Based Approach to Appraise the Suppliers in Hydrogen Fuel Cell Vehicle Industry

Published in Sustainable Supply Chain of Renewable Energy Networks, Springer (2025) 📄 Link

- **Summary:** Proposed a fuzzy prospect theory-based method for ranking hydrogen fuel cell suppliers in India, addressing key supply chain challenges.

ACHIEVEMENTS & LEADERSHIP

- **Winner - MLH PEC Hacks Hackathon:** Awarded Rs.60,000 for winning a 36-hour hackathon organized by MLH.
- **Smart India Hackathon 2022:** Achieved 2nd place in the national grand finale (Software Edition).
- **IITM Paradox 📄:** Served as Steering Committee member, Secretary & FRB Core, building the organization from the ground up to serve a 22,000-student community with a footfall of 5,000 and organizing one of India's largest student fests.