

VINEETH SAGAR HL

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Software Engineering and ISE Student

Information Science and Engineering student with hands-on experience building production-grade intelligent systems agentic AI, RAG pipelines, and predictive models. Proven ability to design scalable, research-backed applications from agricultural systems to cybersecurity threat detection—with a focus on clean code architecture and deployment-ready solutions.

RESEARCH PAPER

Zero-Day Detection and Mitigation Framework for Kubernetes Microservices

Published/Under Review

A Temporal Graph Neural Network Approach with Explainable AI

2026

EXPERIENCE AND ACHIEVEMENTS

3rd Prize (hack.io - KSSEM)

2025

- Attributed for excelled development of AgriGain Agentic AI platform on national level.

2nd Prize (Build & Conquer Hackathon)

2024

- Won 2nd prize among 50+ teams by engineering production-ready application under tight deadline, demonstrating 99.5% uptime during judging.

IEEE CIS Media Head

2024

- Led media team of 8 members, executing 12 promotional campaigns that increased event attendance by 40% across 6 workshops.

PROJECT EXPERIENCE

GitHub | Zero-Day Attack Detection Using TGNN and Explainable AI in Kubernetes

- Trained 3 models (TGNN, LSTM-AE, DeepLog) with temporal graph construction, reducing false positives by 40%.
- Integrated SHAP-based explainability with MITRE ATT&CK mapping, enabling real-time anomaly detection with 2-second response time.

(Python · Temporal Graph Neural Networks · Explainable AI · Kubernetes · Scikit-learn · Docker · Pandas & NumPy)

GitHub | Hybrid P2P-Cloud Anonymous Transfer Engine

- Built a stateless FastAPI backend with HS256 JWT auth and async Redis presence tracking (60s TTL).
- Automated cloud cleanup via AWS Lambda burn-after-reading deletion and S3 lifecycle rules to purge files and abort incomplete multipart uploads.
- Deployed non-root Docker containers under Kubernetes Secrets with least-privilege IAM policies, enforcing zerotrust principles end-to-end.

(WebRTC · Socket.IO · FastAPI · AWS S3 · Lambda · Redis · React.js · Docker · JWT Authentication)

GitHub | NetCDF RAG Pipeline - Scientific Retrieval-Augmented Generation

- Constructed RAG pipeline from scratch over 5GB of oceanographic data; parsed, chunked, and embedded ~20,000 profile chunks with structured metadata into a vector database with filtered retrieval.
- Developed async FastAPI service generating fact-checked responses using LangChain, achieving 500 requests/minute throughput with 95% factual accuracy.
- Improved natural-language query accuracy from ~70% to ~90% across 5 prompt engineering iterations; built interactive dashboard with 6–7 data widgets including location maps and multi-year trend graphs.

(Python · RAG · NetCDF4 · LangChain · ChromaDB (Vector Store) · OpenAI Embeddings · FastAPI · Xarray)

TECHNICAL SKILLS

Languages: Python, Java, C, JavaScript, SQL, Node.js

Frameworks: Git, PyTorch, FastAPI, Flask, Pandas, NumPy, n8n

AI/ML: LLMs, RAG pipelines, AI agents, transformers, reinforcement learning, multimodal ML, model training & evaluation

Tools: GitHub, Vercel, Docker, Jupyter, n8n, Power BI

Domains: Machine Learning, RAG Systems, Agentic AI, Web Dev, DevOps, Data Preprocessing.

EDUCATION

BMSIT&M

2023 – 2027

B.E - Information Science and Engineering

CGPA: 9.18

SIR M V PU College

2021 – 2023

Pre University Course, PCMBS

90%

ADDITIONAL INFORMATION

Certificates

Oracle Cloud Infrastructure/AI Foundations, Google Cloud Skill Boost

Soft Skills

Group Leader in National level Hackathon, Sports Team Leader