

VENKATA NAGA SAI RAM NOMULA

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EDUCATION

Master of Science, Computer Science, University of Houston, TX May 2025
Relevant Coursework: Big Data Analytics, Data Mining, Machine Learning, Cloud Computing, Visualization.
Bachelor of Technology, Computer Science Engineering, SRM University, India May 2023
Relevant Coursework: Operating Systems, Artificial Intelligence, Project Management, DBMS, Agile Development.
Specialization: Software Engineering — CGPA: 3.7/4.0

SKILLS & TOOLS

Languages	Python, Java, JavaScript, C/C++, SQL, HTML/CSS
Frontend & Backend	React, Bootstrap, Node.js, FastAPI, GraphQL, REST
Databases	RDS, MongoDB, Oracle, DynamoDB, Firebase, SQLite, Redis
Cloud	AWS(EC2, S3, Lambda, Lightsail, Glue, Athena, SQS), Kubernetes, BigQuery, Docker
Other Tools	Git, Jenkins, Kafka, Zookeeper, Confluence, Jira, Tableau, PowerBI, Figma, Postman

WORK EXPERIENCE

Research Assistant at the University of Houston, TX, USA. June 2024 - Present

- Developed security frameworks for Advanced Traffic Management Systems to counter Intersection Signal Attacks, reducing breach incidents by 70% through enhanced system hardening, real-time anomaly detection, and resilient traffic control strategies, informed by recent cybersecurity studies.
- Partnered with USDOT and cross-functional teams to perform security assessments, boosting threat detection rates by 40% and enhancing system reliability.
- Analyzed kernel-level vulnerabilities after a Microsoft Windows outage, proposing a security framework to prevent future incidents. Submitted project proposals to local government, including a healthcare initiative on opioid issues in Houston, focusing on privacy and security frameworks.
- Created SQL-driven dashboards for mentoringtime.com, raising user engagement tracking efficiency by 45%.

Software Developer Intern at Airdonex Technologies Pvt Ltd, India. Jan 2022 - Apr 2022

- Designed user interfaces for a drone management platform, leading a team of 10 to boost user engagement by 30% and accelerate project delivery by 20% with agile methods.
- Developed autonomous drone integration with Raspberry Pi, enabling real-time mapping for Unmanned Aircraft System Traffic Management (UTM), minimizing navigation errors by 10%. Conducted UI testing for drone control interfaces, cutting user-reported issues by 25% and enhancing response times.

PROJECT EXPERIENCE

Hybrid Deep Learning Intrusion Detection System, Developed an advanced intrusion detection system for Advanced Traffic Management Systems cybersecurity with LSTM networks, Temporal Attention, and Gradient Boosting, improving detection of evasion and False Data Injection attacks on the CIC-IoT-2023 dataset.

AskLlama, Fine-tuned Llama 2 model with PEFT and QLoRA, achieving a 5% higher BLEU score for question-answering tasks and decreasing memory footprint by 20%, enhancing computational efficiency.

E-commerce Platform, Designed a scalable e-commerce platform using Kafka, Spark, and Zookeeper on AWS, processing multiple transactions/day with more than 90% uptime, containerized with Docker for seamless deployment. Leveraged AWS Glue and Athena for ETL and data analytics, storing data in Redshift, and secured access with AWS IAM, reducing data processing time by 50%.

PUBLICATIONS

DiaDisc: A Machine Learning Approach for Classification and Prediction of Diabetes Mellitus [IEEE]
Published in 2023 International Conference on Data Science, Agents & Artificial Intelligence (ICDSA AI)