




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
Frontend & Backend	HTML/CSS, React, Bootstrap, Node.js, FastAPI, GraphQL, REST
Databases	RDS, MongoDB, Oracle, DynamoDB, Firebase, SQLite, Redis
Cloud	AWS (EC2, S3, Redshift, Lambda, Lightsail, Glue, Athena), Kubernetes, BigQuery
Other Tools	Git, TDD, Docker, Jenkins, Kafka, Zookeeper, Hadoop, Spark, Hive, Jira, Confluence, Tableau, PowerBI, Figma, Postman, Swagger.

WORK EXPERIENCE

Research Assistant at the University of Houston, TX, USA. June 2024 - May 2025

- Developed security frameworks for Advanced Traffic Management Systems to counter Intersection Signal Attacks, reducing breach incidents by 70% through enhanced system hardening, real-time LSTM-based anomaly detection, and resilient, fault-tolerant traffic control strategies informed by distributed consensus principles.
- Partnered with USDOT and cross-functional teams to perform end-to-end security assessments of cloud-native architectures, boosting threat detection rates by 40% and improving overall system reliability and availability.
- Analyzed kernel-level vulnerabilities following a Microsoft Windows outage; designed and proposed a scalable security framework to prevent future incidents, and submitted privacy-focused proposals to local government, including a healthcare initiative on opioid monitoring.
- Created SQL-driven dashboards for mentoringtime.com, optimizing ETL workflows with AWS Glue and Athena, which raised 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.

Creative Design Lead at Surge: Crypto & Invest, India. Nov 2021 - Apr 2022

- Directed development and launching of a mobile application for automated Bitcoin investment, securing a 25% market share post-launch. Advanced business development, generating an increase in investment capital 20%.
- Managed project alignment with business goals, ensuring timely delivery and superior product quality.

Technical Aide (Contract), Remote July 2021 – Dec 2021

- Built ETL pipelines using Python, PySpark, and SparkSQL to process upstream data for an AT&T analytics project, enabling data enrichment and reducing processing time by 30% for downstream reporting.
- Designed data models and supported data warehousing with SQL, optimizing storage of 500,000+ records for efficient data retrieval in downstream analytics workflows.
- Managed data workflows using Git for version control, ensuring reliable code management for ETL pipelines, improving deployment efficiency by 25%.

PROJECT EXPERIENCE

AskLlama, Fine-tuned Llama 2 with PEFT and QLoRA in Python, improving BLEU score by 5% and reducing memory footprint by 20%, and containerized the inference pipeline with Docker for scalable deployment.

Hybrid Deep Learning Intrusion Detection System, Developed an advanced IDS for ATMS cybersecurity using LSTM networks with temporal attention and gradient boosting on the CIC-IoT-2023 dataset, achieving a 22% increase in recall and a 35% reduction in false positives.

E-commerce Platform, Designed a fault-tolerant e-commerce system with Kafka, Spark, and Zookeeper on AWS, supporting 100K+ transactions/day at 90% uptime; implemented ETL in AWS Glue, analytics with Athena, and data warehousing in Redshift, cutting processing time by 50% and securing access via IAM.

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 (*ICDSAAI*)

LEADERSHIP EXPERIENCE

- Joint Vice President, NWC Association: Led sixty members from diverse disciplines to organize technical events.
- Secretary & Organizer, Team SRM Hackathon: Managed forty members to host international technical events.