

# Rakesh Surampalli

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in LinkedIn   🌐 GitHub   📁 Portfolio

## PROFESSIONAL SUMMARY

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Senior AI and Full-Stack Engineer with 6+ years of experience designing, developing, and deploying scalable, production-grade artificial intelligence and data platforms. Proven expertise across the full machine learning lifecycle, including data engineering, model development, API-driven inference, and cloud-native deployment. Strong background in NLP, predictive modeling, and distributed systems, with hands-on experience operationalizing AI solutions using modern CI/CD pipelines, containerization, and orchestration frameworks. Adept at translating complex data and AI capabilities into reliable, high-impact systems across healthcare, finance, IoT, and autonomous systems domains.

## TECHNICAL SKILLS

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<b>AI/ML &amp; Data Science</b>	Machine Learning, Deep Learning, Predictive Modeling, OpenAI API, LangChain, RAG Pipelines, Vector Embeddings, TensorFlow, PyTorch, LSTM, Scikit-learn, Pandas
<b>Languages &amp; Backend</b>	Python, SQL, Java, TypeScript, Django, FastAPI, React, Node.js
<b>Cloud &amp; DevOps</b>	AWS, Azure, GCP, Docker, Kubernetes, Git, GitHub Actions (CI/CD), Terraform, REST APIs
<b>Databases</b>	PostgreSQL, MySQL, MongoDB, DynamoDB, S3, Azure SQL, Cosmos DB, Hadoop
<b>Tools &amp; Compliance</b>	HIPAA, SOC2, Splunk, Tableau, Power BI, Jira, Jupyter, Postman

## PROFESSIONAL EXPERIENCE

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**Senior AI & Full-Stack Engineer — CVS Health** Jun 2023 – Present

- Architected LLM-powered analytics using **LangChain** and **OpenAI** to automate threat summarization and risk insights, exposing inference via secure **Django REST APIs**.
- Designed scalable, HIPAA-compliant data pipelines on **Azure** (SQL, Cosmos DB), automating CI/CD and infrastructure with **GitHub Actions** and **Terraform**.
- Operationalized machine learning workflows by containerizing models with **Docker** and deploying to **Kubernetes** clusters, ensuring high availability and robust monitoring.

**Data Analytics Engineer — Copart** Jun 2022 – May 2023

- Led the migration of on-premise databases to **Snowflake** and **GCP**, designing efficient **Python/SQL** ETL pipelines to transform raw operational data for analytics.
- Developed enterprise-grade **Tableau** dashboards and optimized complex SQL queries to drive data-informed decision-making for finance and operations.

**Backend Developer Intern — Toyama Home Automation** May 2019 – Jan 2021

- Built **Dockerized Django** microservices for IoT smart home systems on **AWS**, enabling real-time sensor data processing and Alexa voice command integration.
- Developed **RESTful APIs** to synchronize device status across **React** frontends and mobile applications, ensuring low-latency system response.

**Sensing & Automation Lead — Project Manas** Oct 2016 – May 2019

- Developed real-time sensor fusion and object detection pipelines using **LiDAR**, radar, and **computer vision** on **NVIDIA** GPU platforms for autonomous vehicles.

## PERSONAL PROJECTS

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- **FinAI** — AI-powered financial analytics platform using **LLMs** (OpenAI, LangChain, **RAG**) for stock analysis and portfolio risk scoring.
- **Tudu** — AI-powered task planning assistant converting natural language into structured schedules using **LLM-based automation**.
- **Atharva** — AI & **IoT-driven** agriculture platform providing crop recommendations, predictive insights, and real-time monitoring.

## EDUCATION

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**M.S. in Business Analytics** — University of Texas at Dallas

**B.S. in Mechatronics Engineering** — Manipal Institute of Technology

## CERTIFICATIONS

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Google Data Analytics • Deep Learning (Andrew Ng) • MLOps (Coursera) • AWS Certified Solutions Architect