

# VENKAT SRINIVASA RAGHAVAN

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## SUMMARY

Experienced software engineer (3+ years) proficient in full-stack development, microservices, cloud technologies (AWS, Kubernetes), and AI integration. Adept at optimizing complex systems for high performance, scalability, and impactful business outcomes.

## EDUCATION

**Master of Science in Data Science - Northeastern University** 4.0/4.0

Jan 2023 - Apr 2025

**Bachelors in Electronics & Instrumentation - R.V College of Engineering** | 8.69/10

Aug 2016–Aug 2020

**Relevant Coursework:** Cloud Computing, Algorithms, Machine Learning, Large Language Models, Data Management.

## PROFESSIONAL EXPERIENCE

**Software Engineer, Fidelity Investments** | Boston, MA

Jan 2024 - Jul 2024

*Skills—System Design, ETL Pipelines, LLMs (RAG), Microservices, MLOps, NER, AWS (SageMaker, Lambda, EC2), Kubernetes, CI/CD.*

- Developed an ETL pipeline using **Python**, **Playwright**, and **Airflow** to process **200+** daily emails, modeling the workflow as a **trie** structure; cut processing time from **12 hours to 1 hour**; and increased alpha by **60% (Best Project Award)**.
- Built a GPT-4-powered **RAG** system on a **Linux EC2** machine, utilizing **ChromaDB**, **Elasticsearch**, **GraphQL APIs**, and **SageMaker** for **NER** extraction; achieved **99.99%** uptime and considerably enhanced accuracy.
- Developed a sentiment analytics plugin using **Spring Boot microservices** and **MongoDB** to deliver real-time investor insights; reduced processing time by **90%** and improved user satisfaction by **60%**.

**Software Engineer, Airbus** | Bengaluru, India

Jan 2021–Dec 2022

*Skills—Python, Node.js, Typescript, React, AWS, Docker, MySQL, CI/CD, JWT, Docker*

- Developed a document management and editing system using **.NET Core**, **Kafka**, **Redis**, and **Docker**; operations were modeled as a doubly linked list, reducing **HTTP** requests, increasing uptime to **99.99%**, and increasing document generation speed by **60%**.
- Engineered cost-saving workflows and cross-server migration pipelines with **AWS EMR**, **SQL Server**, and **S3** expiration policies; reduced manual effort by **80%** and saved **\$50,000** annually in cloud expenses.
- Built an event-driven data validation framework using Java Spring Boot and **RabbitMQ**; decreased database error rates by 95% through efficient ingestion and validation processes.
- Architected a dynamic layout engine in **Angular** using **NgRx** and advanced DOM APIs to virtualize large HTML tables and conditionally render borders, improving rendering speed by **70%** and enhancing document editing UX.

**Associate Software Engineer, Airbus** | Bengaluru, India

Jun 2020–Dec 2020

*Skills—SQL, Node.js, Angular, AWS (RDS, Athena, Redshift), data processing, and CI/CD.*

- Optimized SQL procedures and indexing for large datasets, reducing runtime from **12 hours to 4 hours** and enhancing data retrieval. Developed a forecasting tool using **AWS RDS (SQL Server)**, **Athena**, and **Redshift**, boosting efficiency by **65%** and **doubling** users.
- Built a **Node.js–Angular** app with **SQL Server** backend for admin settings and config management, reducing manual effort by **4+** hours/day. Integrated **Power BI** for real-time visualizations; received a **Spot Award** for significant user impact.

**Machine Learning Researcher, R.V College of Engineering** | Bengaluru, India

Aug 2019 - Aug 2020

*Skills—Python, Javascript, Deep Learning, Machine Learning, IOT, Github.*

- Developed an IoT-based spine diagnostic system at BGS Global Hospital to detect lumbar lordosis using sensor instrumentation, capturing posture data in real-time via a **JavaScript–Python** stack. Patented our study: **No. 202241054225 A**.
- Built and trained logistic regression and ANN models for spine condition classification, achieving an F1 score of **0.98** and reducing clinical diagnosis time from **days to minutes**.

## PROJECTS

**Nutribuddy** : Transformers, FastAPI, Postgres, React, Docker, PyTorch.

Apr 2025

Developed a personalized nutrition and exercise recommendation system using LLMs to parse user history and biometric data; successfully deployed to 22 beta users with highly tailored output and positive early feedback.

**CodeSage** | Full-Stack Development, Fine-tuning, Fast API, Reactjs, Git Actions, CI/CD.

Jan 2025

Built an AI-powered code review system using Mistral-7B, fine-tuned for pull request analysis and seamlessly integrated into the CI pipeline via GitHub Actions; reduced post-merge code errors by 80% and improved review turnaround time.

## TECHNICAL SKILLS

**Programming & Development:** Python, Java, C#, C++, JavaScript, SQL, Spring Boot, HTML5, CSS3, React.js, Angular, .NET, Node.js.

**Systems & APIs:** RESTful APIs, GraphQL, gRPC, Kafka, Elasticsearch, WebSockets, NGINX, SQS, Git, Linux, Git, CI/CD, Postman.

**Cloud Technologies:** AWS (ECS, Lambda), Docker, Kubernetes (EKS), Jenkins, Terraform, Snowflake, Redis, DynamoDB, Cassandra.

**Competitive Programming:** Kaggle (3rd/50+ teams, 2023 Datathon, ML credit line model); Leetcode Knight, AWS Graduate Certifications.