

RAJASHEKAR VENNAVELLI

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EDUCATION

Santa Clara University

Master of Science - Computer Science and Engineering;

Santa Clara, CA

2022 - 2024

Stanford University

Computer Science, Technology Entrepreneurship - Graduate Certificate Course

Palo Alto, CA

2022

TECHNICAL SKILLS

Programming Languages: Java (5 Yrs), Python (3 Yrs) , JavaScript(2 Yrs), C++, HTML/CSS

Frameworks: React.js, Spring Boot, Node.js, Elixir, Clerk, Vercel, Agile

Cloud Tech & Tools: Docker, AWS S3, EC2, DynamoDB, Lambda, Kubernetes, Jenkins, RabbitMQ, Elasticsearch, CI/CD

Database Technologies: MySQL, MongoDB, Postgres DB, Firebase

Relevant Courses: Operating Systems, Computer Architecture, Machine Learning, Object Oriented Design & Analysis

PROFESSIONAL EXPERIENCE

AtlasNova AI

Software Engineer Intern

Cupertino, CA

August 2024 - Present

- Architected and optimized high-performance data pipelines for processing multi-modal content from **AWS S3** buckets using **Python**, achieving a 40% improvement in data processing efficiency and a 25% reduction in resource utilization.
- Implemented advanced **Retrieval-Augmented Generation (RAG)** pipelines to create an AI-powered knowledge base, enabling real-time, context-aware document searches across multimodal data which improved result relevance by 35%.
- Led the end-to-end design and development of a scalable, **microservices-based** backend architecture, including the creation of numerous API endpoints. Leveraged **AWS Lambda** for serverless computing, resulting in a 30% reduction in operational costs and improvement in system scalability.

Headstarter AI

Software Engineering Fellow (Internship)

Mountain View, CA

April 2024 - July 2024

- Worked in a team of 3 to develop an interactive customer support agent using **Next.js**, **firebase** integrated a custom RAG pipeline using **OpenAI** and **Pinecone** that responds based on a company's knowledge base.
- Collaborated with 3 Fellows to build and deploy a **SaaS** product that generates dynamic flashcards based on any topic using the **Llama 3.1 LLM** via the **Groq API**, integrated a paywall and custom pricing plans using the **Stripe API**.
- Implemented a web scraper that automatically extracts data from Rate my Professor and upsert to a **Pinecone index**, integrated with a RAG pipeline using **LangChain** to get up-to-date and relevant answers to user queries.

Square — Distributed Learning Management System

Software Engineer

San Diego, CA

2020 - 2021

- Developed a high-throughput **data processing** pipeline for real-time analytics using **Node.js** and **Postgres DB**, optimizing database queries and facilitating seamless data flow across multiple microservices. Integrated a dynamic React interface for course creators, supported by low-latency data streaming via **UDP/TCP sockets**.
- Integrated a review system leveraging **SM-2 spaced repetition algorithms** into the LMS. Ensured students retain critical information by scheduling reviews at optimal intervals. Developed the backend to handle algorithm calculations and data storage, and created a user-friendly **ReactJS** interface to enhance student retention and learning outcomes.
- Engineered a **distributed system** using **JavaScript**, **RabbitMQ** and **multi-threading** to handle high-throughput, low-latency data streams, reducing system response time by 40% and supporting seamless real-time data processing. Deployed a robust caching mechanism using **Redis**, enhancing data retrieval speeds by 60%.

Citi — Global Financial Institution

Application Developer

Chennai, India

2018 - 2019

- Worked on the **API team**, architected a robust set of public facing **REST API** endpoints using **Java Spring Boot**, standardizing error messaging across the platform, achieved a 35% increase in third-party integrations in six months.
- Engineered and implemented critical **OAuth** and **Surrogate Authentication** components using **GraphQL**, decreasing login failures by 25%, boosting user retention by 15%, while ensuring GDPR compliance.

HACKATHON AWARDS, ACTIVITIES AND CERTIFICATIONS

- Awarded **Best generative AI** app using InterSystems Vector Search at **HackMIT 2024 InterSystems Challenge**
- Awarded **Best application of Climate Tech** built on **AWS** at **UC Berkeley AI Hackathon, 2024**
- Awarded **Best AI agent** application built on **Fetch.ai** at **UCLA Hacks, 2024**
- Awarded **1st Prize HackMIT 2023**, under "Combining AI & Physical World Challenge" **MIT IBM Watson AI Lab**
- Awarded **1st Prize** at **CalHacks 2023**, under Intersystems Integrated ML innovation challenge, 2023.
- Completed **CodePath Certifications** on **Advanced Web Development** and **Data Structures and Algorithms**