Ritesh R Honnalli

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Education

University of Michigan — August 2024 - April 2026
Masters of Science in Software Engineering

KLE Technological University — June 2018 – July 2022
Bachelor of Engineering in Computer Science

Technical Skills

Languages: Python, C#, Java, Typescript, Javascript
Cloud and Devops: AWS, Azure, Docker, Kubernetes, CI-CD
AI/ML: LLMs, RAG, LangChain
Technologies/Frameworks: GitHub, Angular, .NET Framework, MVC, Node.js, Next.JS, React
Technical Concepts: Software Architecture, Agile, Relational Database, Data Structures and Algorithms, Operating Systems, Object-Oriented Programming
Database: SQL, MongoDB, PostgresSQL

Work Experience

Software Engineer Intern — May 2025 - Present
Rocket Mortgage
- Built and deployed multi-agent automation features using Amazon Bedrock to streamline loan-closing workflows, cutting manual processing time by an estimated 65%.
- Optimized backend service memory usage, resolving OOM crashes in a 20 GB, 3-pod deployment and improving system reliability.
- Contributing to full-stack development across five high-traffic loan-closing applications, serving 1,000+ documents, and driving improvements in reliability and real-time performance.

Research Assistant — Sept 2024 - June 2025
University of Michigan
- Designed an advanced AI-based anomaly detection system for EV charging infrastructure using LLM Models, improving detection accuracy up to 76.7%.
- Integrated Retrieval-Augmented Generation (RAG) to leverage domain-specific context, reducing false positives by 20% in real-time threat detection.
- Simulated over 250 cyber-attack scenarios to rigorously test and validate intelligent software infrastructure.

Software Engineer — July 2022 – Aug 2024
Eurofins IT Solutions Pvt. Ltd.
- Redesigned front-end UI with a focus on user experience, leading to a 40% increase in engagement and 25% improvement in user retention based on user feedback.
- Automated more than 20 manual tasks, reducing operational hours by 60% and boosting team productivity by 30%.
- Led performance optimization of key service endpoints, reducing API latency by 30% in high-load scenarios.
- Developed 3 key applications, achieving reduction in system downtime and a 25% performance improvement while maintaining a 95% uptime SLA.

Projects

GradToHired | React, Python, FastAPI, MongoDB, Azure, OpenAI API, OAuth 2.0 — Sep 2025
- Developed an intelligent outreach autopilot system integrating OpenAI, Perplexity, Microsoft Graph, and Hunter.io APIs with a database of 5M+ records to identify key contacts and automatically draft personalized emails, reducing outreach time per target company from 45 minutes to 5 minutes (=89% reduction).

Accreditation Document Generator | React, Python, LLM, AWS, PostgresSQL — Dec 2025
- Designed and implemented a scalable, cloud-native application utilizing Retrieval-Augmented Generation (RAG) with Large Language Models (LLMs) to automate documentation generation.
- Implemented LLMs and RAG using GPT Models to generate comprehensive reports in under 5 minutes, replacing more than 20 hours of manual work.
- Developed a web app that automates the creation of accreditation documents, reducing manual workload by up to 70% and preparation time by 80%.

Publication

LLM-Powered Agentic AI Approach to Securing EV Charging Systems Against Cyber Threats — IEEE, May 2025.
- **Proposed a multi-agent** LLM-based defense architecture that improves anomaly detection in EV charging systems by 76.7% through real-time, context-aware threat mitigation.

Multimodal LLM-Guided Sequential Detection of Cyber Threats in Electric Vehicle Charging Systems — IEEE, Aug 2025.
- **Published research on multimodal LLM-guided cyber threat detection** in EV charging systems, achieving up to 60% energy loss reduction with improved accuracy and early anomaly detection