

Rudra Patel

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EDUCATION

University of Tennessee <i>Bachelor of Science in Computer Science, Minor in Mathematics</i>	Knoxville, TN Aug 2022 – May 2026
<ul style="list-style-type: none">• GPA: 4.0 / 4.0• Extracurriculars: Hack4Impact (Director of Engineering)	

EXPERIENCE

Knoxville Utilities Board <i>Software Engineering Intern</i>	May 2023 – Present Knoxville, TN
<ul style="list-style-type: none">• Communicated more accurate restoration times to 400K+ customers by rebuilding the outage notification system's logic and infrastructure in Java EE• Increased outage system capacity from 40K to 150K concurrent users by scaling Java-based backend services, ensuring reliability and uptime during major storms• Built an internal tool used in 90% of production deployments that enables QA testers to view deployed API versions across environments, saving 60 hours/month• Designed and implemented an in-house message queue management tool, reducing licensing costs by \$1.5K/year	
GE Vernova <i>Software Engineering Intern (Applied AI)</i>	May 2025 – Aug 2025 Atlanta, GA
<ul style="list-style-type: none">• Grew annual revenue by \$2MM and helped service 20% more turbines annually by developing a retrieval-augmented generation (RAG) system in Python to digitize parts listed in technical specifications• Cut part delivery time by 60% and saved \$50K/year in labor costs by building an intuitive React UI for engineers to manage digitized data and plan for future outages• Saved 250+ hours a year by creating a generative AI tool to automatically categorize incoming support tickets	
St. Christopher Truckers Relief Fund <i>Software Engineering Team Lead</i>	Aug 2024 – Jun 2025 Knoxville, TN
<ul style="list-style-type: none">• Led a team of 6 volunteer student developers to deliver a health program management system by establishing coding standards and performing code reviews, enabling high-quality solutions using Next.js and MongoDB• Served 1200+ truckers nationwide by developing a centralized intake form and integrated client/admin dashboard, replacing fragmented Google Forms, spreadsheets, and ad hoc tools.• Saved 150+ hours/year by designing and implementing an automated emailing infrastructure in GitHub Actions and Node.js that streamlined meeting scheduling and client communication	
GE Vernova <i>Software Engineering Intern (Cloud)</i>	May 2024 – Aug 2024 Atlanta, GA
<ul style="list-style-type: none">• Reduced AWS account delivery time by 90% by streamlining and automating the account creation process• Corrected 70+ misconfigured resources across AWS environments by developing an Ansible playbook to implement Infrastructure as Code (IaC) and detect CloudFormation stack drift• Enforced secure-by-default infrastructure by building a GitHub Actions workflow for automated IaC security and compliance validation now adopted by 13 engineering teams	

PROJECTS

Personal AI Chatbot <i>Next.js, .NET, Go, RabbitMQ, PostgreSQL, Nginx, Ollama</i>	Jun 2025
<ul style="list-style-type: none">• Architected and implemented a full-stack AI chatbot using microservices (Nginx, ASP.NET Core, Go, and Ollama) with Docker containerization for consistent deployments• Developed a modern web interface with real-time chat using Next.js that supports multiple conversations via PostgreSQL and custom AI personalities defined by user-selected system prompts• Engineered a robust logging system with asynchronous communication via RabbitMQ for improved visibility	

TECHNICAL SKILLS

Languages: Java, Python, JavaScript/TypeScript, C#, Go, C++, C, SQL, HTML, CSS

Frameworks & Libraries: AWS, React, .NET (ASP.NET Core), Node.js, Next.js, Ember.js

Software: Docker, Git, Ansible, GitHub Actions, Nginx, Apache HTTP, PostgreSQL, MongoDB

Technical Expertise: REST APIs, Object-Oriented Programming (OOP), Full-Stack Development, CI/CD