

# Rudra Patel

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## EDUCATION

### University of Tennessee

*Bachelor of Science in Computer Science, Minor in Mathematics*

Knoxville, TN

Aug 2022 – May 2026

- GPA: **4.0 / 4.0**
- Extracurriculars: Hack4Impact (Director of Engineering)

## EXPERIENCE

### Knoxville Utilities Board

May 2023 – Present

*Software Engineering Intern*

Knoxville, TN

- 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

May 2025 – Aug 2025

*Software Engineering Intern (Applied AI)*

Atlanta, GA

- 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

Aug 2024 – Jun 2025

*Software Engineering Team Lead*

Knoxville, TN

- 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

May 2024 – Aug 2024

*Software Engineering Intern (Cloud)*

Atlanta, GA

- 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 | Next.js, .NET, Go, RabbitMQ, PostgreSQL, Nginx, Ollama

Jun 2025

- 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