

RITVIK PENDYALA

Raleigh, NC | 📞 (984) 998-0087 | ✉️ ritvikhuntsjobs@gmail.com | 🏠 Ritvik Pendyala | 🌐 pend1901 | 📁 Portfolio

SUMMARY

Backend and agentic AI engineer with two years at HCL Software building MCP-based agent systems, AI-driven test automation, and Java/Spring platforms for enterprise QA teams. Now an MS Computer Science student at NC State, seeking a Summer 2027 software engineering internship in backend, full-stack, or AI.

EDUCATION

North Carolina State University

Raleigh, NC | May 2028 (Expected)

Master of Computer Science

Indraprastha Institute of Information Technology, Delhi (IIIT Delhi)

New Delhi, India | May 2024

Bachelor of Technology in Computer Science and Engineering

Cumulative GPA: 7.62/10

SKILLS

Languages: Java, TypeScript/JavaScript, Python, SQL, C/C++

Backend: Spring Boot, Node.js, REST APIs, RabbitMQ, PostgreSQL, MySQL, MongoDB, Prisma

AI/Automation: Spring AI, MCP, LLM APIs, AI Agents, Prompt Engineering, Browser Automation, Claude Code, Codex

Frontend/DevOps: Next.js, React, Tailwind CSS, Docker, Kubernetes (Pods, Logs, Deployments), Git, Github, AWS, GCP

WORK EXPERIENCE

HCL Software - DevOps Test | *Software Development Engineer - 2*

August 2024 – August 2026

- Architected **Vulcan**, an MCP-based browser automation engine that analyzes live application URLs, DOM state, and natural-language testing intent to generate regression-ready end-to-end UI tests, replacing manual record-and-playback workflows and reducing test creation effort by **80%+**.
- Designed **Vulcan**'s scenario-generation pipeline to transform website content, user journeys, and product context into parent scenarios, edge-case sub-scenarios, assertions, and reusable test steps, surfacing overlooked flows typically missed during manual test planning.
- Implemented an automated **test repair** pipeline in Vulcan that detects UI test failures caused by post-deployment DOM, locator, and flow changes, applying AI-assisted repair with deterministic fallbacks to fix broken tests without requiring full re-recording.
- Developed a **record-after-playback** workflow that replays existing UI tests to any target step and resumes recording from the restored browser state, allowing teams to append validations, repair broken manual steps, and extend long regression flows while reducing repetitive maintenance effort by **70%+**.
- Led development of **Morpheus**, a Java/Spring Boot migration platform that transformed **1M+** legacy XML test assets into a YAML-backed server architecture with validation, rollback, and audit workflows, cutting migration effort by **95%+** for **50+** enterprise clients.
- Delivered a **Chatbot MCP server** for natural-language test orchestration, enabling QA and engineering teams to trigger executions, query migrated assets, monitor failures, and inspect generated tests from a conversational interface.

PROJECTS

Huddl - A Collaborative Coding Platform | [Github](#)

August 2023 – December 2023

- Built a full-stack collaborative coding platform using Next.js, PostgreSQL, and a Dockerized Go judge, enabling real-time multi-user code execution and evaluation for peer learning and mock interview scenarios.
- Engineered collaborative coding rooms with live Web-socket chat, allowing simultaneous editing, discussion, and pair-programming workflows.
- Integrated an AI assistant (Ollama API, Llama 3b) to provide contextual code hints, track KPIs, and generate AI-driven insights for user improvement.

Formula 1 Race Results Predictor | [Github](#) | [Website](#)

March 2023 – May 2023

- Built a Formula 1 race outcome predictor to evaluate how qualifying performance, driver experience, team advantage, weather, and DNF history influence race results, using data collected from APIs and web sources.
- Engineered features and trained Random Forest and SVM models, achieving 90% cross-validated accuracy and improving predictive accuracy from 60% to 94.5% through feature engineering.

ACHIEVEMENTS

Research Publication

- Co-authored a peer-reviewed publication in the [Journal of Crohn's and Colitis \(ECCO'25\)](#) under the guidance of [Prof. Tavpritesh Seth](#) at the [TAV Lab, IIIT Delhi](#).
- Focused on AI-driven modeling of inflammatory bowel disease progression in a year-long interdisciplinary study integrating healthcare data and computational analysis.

Chess - FIDE Master (FM)

- Achieved rating of 1695 and Joint 1st place in the African Continental Youth Chess Championship (FIDE).