

ROHAN PANT



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New Brunswick, NJ

SUMMARY

Software Engineer specializing in agentic AI systems, LLM-integrated backends, and production Node.js/TypeScript services. Built autonomous agents using Gemini and Claude with tool use, MCP-style integrations, and RAG pipelines. Experience spans ML-based automation, backend engineering, and AWS-integrated systems. Pursuing MS in Data Science at Rutgers University while building AI-powered platforms in production.

PROFESSIONAL EXPERIENCE

Rutgers University - New Brunswick

New Brunswick, NJ

Software Developer

Jan 2026 - Present

- Built an agentic AI chatbot from scratch using Node.js, TypeScript, Express, and React, integrating OpenAI-compatible LLM APIs with tool use and retrieval patterns to deliver context-aware academic content across departments.
- Designed a modular LLM evaluation framework supporting 4+ large language models with structured logging, latency tracking, and token usage metrics — applicable to benchmarking RAG pipeline quality and instruction-following performance.
- Implemented retrieval-augmented generation (RAG) logic to ground LLM responses in structured academic content, enabling automated MCQ, programming, and essay question generation mapped to learning objectives.

PATCHWORK — AI Bug-to-PR Agent

New York City, NY

Zero to Agent Hackathon, Cerebral Valley / Vercel × DeepMind

Mar 2026

- Built an autonomous multi-step AI agent that ingests bug reports, generates regression test cases, executes them in an E2B sandboxed environment, and opens a GitHub PR with passing tests — end-to-end with no human intervention.
- Architected agentic workflows using Gemini with tool use and structured output parsing, closely mirroring Claude Agent SDK and MCP server patterns for domain-specific autonomous task execution.
- Integrated GitHub REST API for automated branch creation, commit, and PR submission; used E2B for isolated, reproducible code execution in the agent loop.

Cohesity

Pune, India

Member of Technical Staff 2

Jul 2022 - Jul 2025

- Engineered a production Auto-Triage system using Python and ML models to classify defects across Product, Automation, and Environment categories — reducing debugging turnaround time by 37%.
- Built backend workflows to process and analyze 150k+ system log events using NLP-based pattern detection, enabling faster root-cause analysis across distributed systems.
- Developed and maintained a full Jenkins CI/CD pipeline; built a Grafana dashboard for product resource monitoring, reducing manual QA effort by 20%.
- Configured multi-VLAN network environments (8–16 devices) and led regression testing across 3 release cycles, ensuring 100% adherence to QA standards.

Alpha AI

Remote, India

Data Science Intern

Jun 2021 – Jul 2021

- Developed scripts for image, text and audio data for Facial Expression Recognition and Speech Emotion Recognition systems.
- Trained model with 48x48 pixel 27,000 grayscale images in Keras.
- Used OpenCV to automatically detect faces in images, draw bounding boxes around them, and predict the emotion, achieving an accuracy of ~73%, compared to 85% achieved by a h5 Keras pre-trained model.

PROJECTS

Stock Span Visualizer Using Stack | Python, Data Structures, Algorithm Analysis

- Implemented 2 algorithmic approaches (naive $O(n^2)$ and optimized $O(n)$ using a monotonic stack) for the Stock Span problem, achieving up to $\sim 89\times$ runtime speedup on inputs of 100,000 elements.
- Built a CLI-based benchmarking tool to evaluate performance across 5 data patterns and 7 input sizes.
- Integrated real stock market data via Yahoo Finance (yfinance), enabling analysis and visualization of spans for 3+ real-world stocks (AAPL, TSLA, MSFT).
- Generated 3+ professional visualizations (price trends, span distributions, runtime comparison charts) using matplotlib to validate scalability and algorithmic efficiency.

Machines on Rent using Blockchain (MORB) | C, Distributed Systems, Blockchain

- Designed and developed a blockchain-based rental platform to enable secure, transparent machine rentals for farmers, addressing affordability and access challenges.
- Implemented SHA-256 hashing, consensus validation, and encryption/decryption mechanisms to ensure tamper-resistant transaction records.
- Built core modules for machine registration, rental requests, and transaction verification, handling 100+ simulated rental transactions during testing.
- Applied file handling and data validation techniques to maintain immutable logs and ensure data integrity across nodes.

EDUCATION

Rutgers University

New Brunswick, NJ

Master of Science in Data Science (CGPA: 4.0)

Sep 2025 – May 2027

University of Petroleum and Energy Studies

India

Bachelor of Technology in Computer Science and Engineering (Big Data)

Aug 2018 – May 2022

SKILLS

Agentic AI: Claude Agent SDK, MCP Servers, Tool Use, Gemini tool calling, autonomous workflow design, prompt engineering

RAG & Vector DBs: RAG pipeline development, semantic search, MongoDB Atlas, OpenSearch, S3 Vectors, sentence-transformers

AWS: Lambda, Bedrock, S3, EC2 — serverless inference and AI service integration

Languages: Python, Node.js, TypeScript, Java, SQL

Backend & DevOps: Express, REST APIs, Jenkins CI/CD, Git, Docker, Agile workflows