Rohan Patel

Computer Science & Data Science

Vellore, India

rohanp.o2608@gmail.com | +91 7978546441 | linkedin.com/in/rohan26x | github.com/Rohan26x

SUMMARY

Data Science student with expertise in statistical analysis, machine learning, and data visualization using Python, R, and SQL. Skilled in extracting actionable insights from complex datasets, developing predictive models, and building scalable solutions. Passionate about leveraging data-driven approaches to solve real-world problems and drive innovation across industries.

EDUCATION

Vellore Institute of Technology — Vellore, India

Bachelor of Technology in Computer Science and Engineering – Data Science — *Aug 2023 – May 2027*

CGPA: 8.26/10.0 (approx. 3.3/4.0)

TECHNICAL SKILLS

Languages: Python, R, C, Java, JavaScript, SQL

Web Development: React.js, Next.js, HTML, CSS, JavaScript, REST APIs

Data & ML: Pandas, NumPy, Matplotlib, Scikit-learn, Statistical Analysis, Predictive Modeling

Tools & Automation: Selenium, PyQt6, Requests, Git, GitHub, CI/CD workflows, Agile methodologies

Databases: MySQL, PostgreSQL

Cloud & IDEs: AWS Foundations, VS Code, PyCharm, RStudio, DataSpell, WebStorm

EXPERIENCE

AI Trainer — *Part-time*

Outlier Platform — *6–8 months*

- Worked as an AI Trainer contributing domain expertise to improve large language models used in coding, STEM, and general reasoning tasks
- Executed adversarial prompt engineering and RLHF (Reinforcement Learning from Human Feedback) workflows to identify edge-case failures in LLM reasoning.
- Created detailed grading rubrics and scorecards defining criteria such as correctness, safety, completeness, and clarity to standardize evaluation of AI-generated answers
- Evaluated, rated, and ranked multiple AI responses by comparing truthfulness, reasoning quality, and clarity to guide model preference learning and performance tuning

PROJECTS

Railway Route Optimization Engine — *Jul 2024 – Nov 2024 | Python, MySQL*

- Engineered a graph-based route optimizer processing 1,200+ stations and 450+ schedules using Dijkstra's algorithm with temporal constraints, achieving sub-200 ms query response at 99.8% accuracy.
- Designed normalized MySQL schema with composite B-tree indexing strategy, enabling millisecond-level lookups across 50,000+ records and reducing manual planning time by 70%.
- Implemented conflict validation engine scanning 15,000+ schedule combinations to detect resource overlaps, improving overall network utilization by 22%.

- Created comprehensive technical documentation for algorithm implementation and database architecture to facilitate team collaboration and future maintenance.

AI-Overlay — Educational Assistant *Python, Perplexity API, PyQt6*

- Built a cross-platform desktop application with automated screenshot-to-explanation pipeline, reducing average query resolution time from 5 minutes to 30 seconds for 500+ active users.
- Integrated third-party AI API with custom request handling and Markdown rendering, processing 1,000+ queries while maintaining 97% user satisfaction rating.
- Architected session management system with automatic cleanup routines to ensure GDPR-compliant data handling and memory optimization.
- Packaged application as standalone executables for Windows and Linux using PyInstaller, eliminating Python runtime dependency and simplifying deployment by 85%.

Railway Data Extraction System *Python, Selenium, Pandas*

- Automated large-scale web scraping pipeline extracting 60,000+ structured train records from dynamic JavaScript-rendered pages across 700+ routes, eliminating 45 hours of weekly manual data entry.
- Implemented robust error handling with exponential backoff and retry logic, achieving 96% extraction precision and 99.2% uptime while reducing failure rates by 82%.
- Developed ETL workflow transforming unstructured HTML into normalized CSV/JSON datasets via Pandas, serving downstream business intelligence dashboards.
- Collaborated with stakeholders to define data quality requirements and documented scraper architecture for team knowledge transfer.

CERTIFICATIONS

Oracle: OCI AI Foundations Associate (Nov 2024), OCI Generative AI Professional (Dec 2024)

Udemy: Data Analytics & Machine Learning (Oct 2024), Python with Hands-on Projects (Sep 2024), Time Management, Leadership

Skillumni: AI with Python (Aug 2024)

LANGUAGES

English (Native), Hindi (Native), Japanese (Elementary)