Rohan Patil

Email | knowrohan.com | Pune, MH | LinkedIn

Summary

MSc Data Science and strong foundation in Applied Physics. 3+ years track record of leading development for complex analytical models and optimization algorithms. Expertise in bridging the gap between technical data insights and stakeholder decision-making.

Experience

Computational Analyst at SapientAI

Austin, TX   Nov 2022 – Dec 2024

• Developed and deployed Python based machine learning models that enhanced the fidelity of nuclear fusion simulations, resulting in improved data quality for subsequent research analysis and client reporting
• Engineered and optimized data pre-processing algorithms for diverse datasets, **achieving a 40% measurable improvement** in computational efficiency
• Provided critical support for production applications, including maintenance, debugging, and implementing continuous enhancements to ensure optimal performance and reliability.
• Collaborated with cross-functional teams to present findings to stakeholders and guide technical decision-making— experience transferable to community engagement and developer communication.

Teaching Assistant at University of Massachusetts

Amherst, MA   Jan 2021 – May 2022

General Physics 1&2, Einstein's Dice and Astronomy

• Delivered lectures and led interactive discussion sessions for over 120 undergraduate students in Physics and Astronomy, honing presentation and knowledge transfer abilities.
• Evaluated and delivered prompt feedback on over 1200 assignments to support student growth
• Collaborated with professors and fellow teaching assistants in weekly meetings to address students' concerns and improve learning process

Marketing and Sponsorship Manager at CodeDay

Boston, MA   Dec 2019 – Feb 2020

• Influenced decision-making processes by securing 5 corporate sponsorships to fund educational initiatives
• Managed a 4 member cross-functional team and coordinated with external business partners to execute a major educational event, promoting CS education and community-building

Education

College of Engineering Pune (COEP Tech)

Master of Science in Data Science and Artificial Intelligence

University of Massachusetts, Amherst

Bachelor of Science in Applied Physics
Minor: Resource Economics

Skills

Programming: Python, SQL, JavaScript, Cloudflare Workers, API Integration
Analytical: Regression Analysis, Experimental Design, Hypothesis Testing, Time Series, Optimization, JMP, R
Business: Risk Analysis, Stakeholder Management, Reporting & Visualization (Power BI, Excel), Technical Mentorship

Projects

Market Research and Statistical Data Analysis (Qualtrics, Excel, JMP, MTurk)

• Designed and conducted a custom experimental study on worker productivity using Qualtrics and MTurk.
• Utilized advanced statistical methods, including T-tests and multivariate regression analysis, to identify key drivers of performance and extract actionable insights from demographic data.

Product Ingredient Analyzer (Cloudflare Workers, Gemini API)

• Created a web application that analyzes product ingredient labels using the Gemini API. Implemented front-end with drag-and-drop, a robust back end for image processing, and error handling.

Sentiment Analysis Dashboard (React, SQLite, Cloudflare)

• Conceptualized and developed a full-stack application to automate the collection and analysis of YouTube comment data, identifying keyword frequency and sentiment trends for specified topics.
• Delivered an interactive React dashboard enabling users to visualize sentiment from the top 5 YouTube videos per topic, offering a novel approach to understanding public perception for market research applications.

News Aggregator and Clean News Tool (Python, NLP, Flask, NewsAPI, Transformer Models)

• Built a dynamic tool aggregating news articles from multiple sources via NewsAPI, incorporating real-time text analysis and utilizing Transformer models for unnecessary jargon in news, supporting content integrity and research.

Sentiment Analysis for Stock Market Evaluation (Python, Excel)

• Developed a tool to automate the process of fetching SEC filings (8-K, 10-K, 10-Q) using the SEC-API for targeted stock evaluation.
• Implemented parsing of filings with BeautifulSoup and applied the FinBERT model to automate advanced sentiment scoring.

Monte Carlo Analysis (Python)

• Conducted Monte Carlo simulations (N=40,000) to derive Muon particle mass (100±5 MeV), using simulation to optimize the analysis of experimental data.
• Simulated varying values of key variables, using the simulations to refine the process of data analysis.