ROHAN MISTRY Aspiring Software Engineer and Data Analyst

UC Irvine Class of 2025 – B.S. Computer Science, Intelligent Systems

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Graduated from University of California, Irvine with B.S. Computer Science, specializing in Intelligent Systems. Passionate about leveraging software development, data analysis, and intelligent systems to solve complex problems. Experienced in full-stack development, AI, machine learning, information retrieval, data visualization, and backend data integration through internships, research projects, and academic coursework, with success in creating web applications, data analysis tools, and high-performance search engines. Strong analytical, programming, communication, and leadership skills, with a collaborative mindset and proactive learning approach, eager to tackle new challenges in professional settings.

Languages & Software: Python | Java | C | C++ | HTML/CSS | JavaScript | SQL | React | PHP | R | AWS | Tableau | DBMS | TensorFlow | PyTorch

EDUCATION

Bachelor of Science | Computer Science **Graduated 2025**
University of California, Irvine – Irvine, CA GPA: 3.7

PROFESSIONAL EXPERIENCE

Researcher *Python, Pandas, PyTorch, FRED* **September 2024 – January 2025**
Humanity Unleashed Initiative

- **Open-Source Research:** Participated in multi-faceted AI open-source research project. Focused on improving ability to model & predict outcomes of economic & policy interventions using advanced AI techniques like transformers & foundation models. Conducted analyses of AI model behavior to inform performance optimization strategies across computational resources.
- **Data Collection:** Curated & processed large-scale time series data from open government & international sources.

Product Marketing Intern *Python, Pandas, BeautifulSoup, Selenium, SAP* **October 2023 – September 2024**
MKS Instruments – Irvine, CA

- **Data Automation:** Developed & implemented web scraping programs to automate industry research, improving data collection efficiency.
- **Product Marketing, Inventory Management, & Client Communication:** Assisted in introducing new products by creating & refining marketing collateral, reviewing web content, & conducting competitive analysis. Managed inventory analysis through online databases, coordinated promotional activities, & supported client communications to drive sales initiatives.
- **Industry Research & Analytics:** Contributed to analytics projects by researching industry trends, competitors, & market dynamics, providing actionable insights for strategic decision-making.

Fleet Attendant **September 2022 – January 2023**
Starship Technologies – Irvine, CA

- **Operational Management & Cross-Team Collaboration:** Oversaw daily operations of fleet of 50+ autonomous robots, ensuring smooth service for innovative food delivery platform. Collaborated with merchants to configure robots, ensuring accurate task execution & fulfillment of delivery services.
- **Maintenance, Troubleshooting, & Infrastructure Upgrades:** Managed start-of-day & end-of-day tasks, including charging, cleaning, & performing routine maintenance on fleet. Conducted troubleshooting & repairs during unplanned incidents & facilitated maintenance upgrades on infrastructure to improve operational efficiency.

PROJECTS

NFL Mock Draft Simulator *Python, JavaScript, HTML/CSS, SQL, React, PostgreSQL, FastAPI, Alembic* **April 2025 – July 2025**
Designed and developed full-stack web application to simulate NFL draft scenarios, allowing users to control specific teams, make real-time draft selections, and view draft results dynamically. Built with React (Vite) frontend with JavaScript and FastAPI backend, using PostgreSQL for data management. Deployed with Netlify and Render. Responsive frontend web design using HTML and CSS optimized for desktop.

Fabflix *Java, SQL, HTML, CSS, jQuery, AJAX, JDBC, Tomcat, HTTPS, Docker, AWS, Kubernetes* **September 2024 – December 2024**
Built dynamic full stack web application for browsing, searching, & purchasing films from MySQL database. Integrated Tomcat, Maven, HTTPS, MySQL in AWS EC2 & constructed robust frontend using HTML, CSS, JavaScript, jQuery, & Ajax. Implemented features like full-text search with autocomplete, session-based cart checkout, secure login with SHA256 encryption, & reCAPTCHA. Optimized website performance 30% using MySQL connection pooling & Apache load balancing. Deployed Dockerized project on Kubernetes cluster, analyzed performance with JMeter.

Traffic Signal Control Using Reinforcement Learning *Python, PyTorch, NumPy, Matplotlib, PPO, CityFlow, Ray* **September 2024 – December 2024**
Designed RL framework to optimize traffic signal control, leveraging advanced multi-agent PPO algorithm to dynamically adjust signal timings based on real-time traffic data. Implemented centralized training/decentralized execution approach, dynamic reward functions, CityFlow simulation environments, & Ray RLLib to train & evaluate model & significantly improve metrics like mean velocity, halting duration, & lane occupancy.

StrataScratch Exploratory Data Analysis *Python, Pandas, NumPy, Matplotlib, Seaborn, Scikit-Learn, SciPy, DeepNote, Alteryx Designer* **April 2024**
Awarded "Best Analysis" at 2024 UC Irvine Datathon. Conducted in-depth exploratory data analysis using StrataScratch datasets. Collaborated with team to visualize insights on market supply & demand, focusing on elevating Airbnb user experience for guests & hosts. Developed & tested decision tree classifier machine learning model using Python that achieved 89.35% accuracy rate leveraging tools like DeepNote & Alteryx Designer.

Fashion-MNIST Machine Learning Analysis *Python, Pandas, NumPy, Matplotlib, Scikit-Learn* **February 2024 – March 2024**
Conducted comparative analysis of ML algorithms on Fashion-MNIST dataset of 70,000 clothing item images. Implemented Scikit-learn classifiers like K-nearest neighbors, logistic regression, feed-forward neural networks, & decision trees, optimizing accuracy through iterative improvements.

Netflix Viewing Activity Analysis *Python, Pandas, NumPy, Matplotlib, Seaborn, Streamlit* **March 2023 – February 2024**
Designed & developed web application using Python libraries to process & analyze Netflix viewing history data, deployed with Streamlit. Generated visualizations & insights regarding viewing patterns based on frequency, duration, & location, providing comprehensive overview of user behavior.

Search Engine and Web Crawler *Python, HTML, CSS, Flask, BeautifulSoup, NLTK, Git* **September 2023 – December 2023**
Engineered customized search engine & web crawler capable of processing 50,000+ documents while maintaining query response time < 100 ms. Integrated advanced features such as partial indexing, Porter stemming, tf-idf scoring, cosine similarity, & sim-hashing, resulting in 75% improvement in textual match accuracy, ranking relevance, & word frequency optimization from incorporated tokenizer.