RIYA GARG

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PROFESSIONAL SUMMARY

Results-driven software engineer with over 3 years of experience in frontend development and data engineering, specializing in building responsive applications and optimizing workflows. Proficient in React, Python, and Docker, I've significantly reduced triage times by 10x and improved patient-history review efficiency by 20x through innovative solutions. I'm passionate about leveraging my skills in full-stack, backend, MLOPS and DevOps roles to drive impactful results and enhance user experiences.

EDUCATION

New York University **September 2024 - May 2026**
Master's, Computer Engineering *GPA: 3.8*
- Relevant coursework: Machine Learning; Big Data Analytics; Internet Architecture & Protocols; Deep Learning; ML Systems Engineering & Ops; Machine Learning for Cyber Security; Real-Time Embedded Systems; Principles of Database Systems

Jaypee Institute of Information Technology **August 2017 - May 2022**
Bachelor's, Computer Science *GPA: 8.3*
- Relevant coursework: Database Systems & Web Development; Data & Web Mining; Neural Networks; Cloud & Web Services; Algorithms & Data Structures; Operating Systems

SKILLS

Git, HTML/CSS, MATLAB, Python, Business Analytics, Operations Research, C/C++, Python, MySQL, HTML, JavaScript, iOS/Swift, C#, Bash, Firebase, Docker, Postman, npm, Kubernetes, haproxy, Nginx, Material UI, Charts, Recharts, React.js, Electron.js, MongoDB, Hadoop, Dask, Apache Hive, Matlab, Tableau, Jupyter, Linux/Unix, Pandas, NumPy, Plotly, Postgres, Streamlit, Flask, Airflow, CSS

PROFESSIONAL EXPERIENCE

Vertically Integrated Program, NYU **New York, NY, USA**
Research Contributor / Developer *January 2025 - Present*
- Reduced triage time by 90% (from 5 minutes to 30 seconds) by building a scalable ReactJS front-end demo integrated with a rule-based back-end decision tree using Python, optimizing web development workflows for clinical decision support.
- Accelerated user interface iteration cycles by 50% by translating stakeholder insights into Figma prototypes, utilizing Agile methodologies to rapidly refine front-end user interface designs.
- Enabled seamless collaboration across front-end and back-end components by coordinating integration of ReactJS front-end with a Python-based back-end, leveraging Docker for environment consistency and supporting future Django or machine learning enhancements.
- Enhanced platform adaptability for AI-driven healthcare solutions by researching and documenting opportunities to incorporate machine learning models and Django back-end architecture into the user interface.

nference Labs Pvt. Ltd. **Bangalore, KA, India**
Senior Software Engineer *February 2022 - July 2024*
- Accelerated ECG interpretation by 40% by engineering a responsive React front-end with real-time AI analysis, on-screen annotation, and interactive visualizations using Chart.js and Recharts.
- Reduced clinician patient-history review time by 20x by developing an intuitive UI in React that clusters notes by guideline relevance, streamlining workflow for heart-failure treatment.
- Decreased end-to-end latency by 90% by integrating EventSource and WebSocket technologies for real-time AI prediction streaming, enhancing user experience for clinical tools.
- Increased data throughput by 10x while maintaining HIPAA compliance by implementing secure Epic FHIR integration and enhancing observability with service-worker logging for web applications.
- Reduced deployment onboarding time by 90% across five hospital sites by delivering a Docker-Kubernetes solution with HAProxy/Nginx ingress, supporting rapid and standardized application deployment.

PROJECTS

Road Risk & Fatality Analysis - *Link to project* **New York, NY, USA**
Big-Data Analytics *November 2024 - December 2024*
- Enhanced data-driven insights for road safety by engineering 25 features and performing correlation analysis on 7 GB of FARS crash data, revealing a 0.72 correlation between speeding-related fatalities and rural roads.
- Improved data quality and reliability by cleaning and preprocessing large-scale crash datasets, implementing feature selection, and ensuring data integrity for actionable analytics.
- Supported informed decision-making for road safety policy by analyzing pre-crash actions, issuing travel advisories, and providing vehicle safety recommendations based on big-data analytics.
- Streamlined feature engineering workflows by utilizing data processing techniques to extract and engineer features from complex, large-scale transportation data for analytical modeling.

Neura-Scholar — Semantic Search & Recommendation for Research Papers - *Link to project* **New York, NY, USA**
Data Engineering and Front-End *April 2025 - May 2025*
- Processed over 400,000 research paper PDFs into 10 million vector-ready data chunks in 3 hours by developing a six-stage ETL workflow using Docker, Apache Airflow, and parallel DAGs with retry mechanisms on a 16-core VM.
- Improved data quality and transparency for research paper recommendations by curating a 13,000-paper evaluation dataset and designing an interactive Streamlit dashboard for data quality inspection and user feedback.
- Enabled rapid semantic search and recommendations across large-scale academic datasets by integrating pgvector for vector search readiness and ensuring efficient data pipeline performance for AI-driven retrieval.
- Increased robustness and reliability of data processing workflows by implementing parallel DAGs with retry logic in Apache Airflow, reducing failure rates and manual intervention.

PUBLICATIONS

Garg, R., Aggarwal, K. & Arora, A. (2023). Applications of Augmented Reality in Medical Training. In Proc. 3rd Intl. Conf. MMCITRE 2022. Springer Nature, Singapore.

HONORS & LEADERSHIP

Received the Best Team Award in 2024 at nference Labs Pvt. Ltd.