

Rahul Shamkuwar

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EDUCATION

• University of Colorado Boulder

Bachelor of Science in Computer Science; GPA: 3.96

Boulder, CO

Fall 2022 – Fall 2024

• University of Illinois Urbana-Champaign

Bachelor of Science in Aerospace Engineering; GPA: 3.46

Urbana-Champaign, IL

Fall 2020 – Spring 2022

SKILLS

- **Languages:** Python, TypeScript, JavaScript, SQL (PostgreSQL), Java, C++, HCL (Terraform), HTML/CSS.

- **Technologies:** React, Next.js, Node.js, FastAPI, Flask, Docker, Kubernetes, AWS, GHA, DeepEval, Agent Forge.

- **Data & AI:** PostgreSQL, Prisma, pandas, NumPy, PyTorch, Scikit-Learn, TensorFlow, Optuna, LLMs.

- **Core Competencies:** Full Stack Development, AI Agent Evaluation, CI/CD, Agile Methodology, System Design.

EXPERIENCE

• Workday

Associate Software Development Engineer

Boulder, CO

Feb 2025 - Present

- **AI Agent Evaluation Infrastructure (Python/Backend):** Architected and productionized Aval, an internal Python-based evaluation framework for AI agents. Integrated Aval with the Agent Forge platform and WSSA, enabling async invocation and graph-based evaluations. Engineered the CI/CD packaging pipeline and implemented configurable environments to accelerate iteration cycles.
- **Full Stack Product Development (React/TS/PostgreSQL):** Led the end-to-end delivery of the Data Prep user flow for GenAI Studio, taking undefined requirements to a production-ready React/TypeScript interface. Designed and implemented relational database models in PostgreSQL to support complex test suite management and evaluation metrics.
- **Performance & Reliability:** Identified and resolved critical concurrency issues in the evaluation service, implementing async handling for agent invocations. Established comprehensive CI pipelines using GitHub Actions to automate testing and building, significantly reducing production bugs.
- **Cross-Functional Leadership:** Drove technical alignment by leading engineering discussions on architecture and data modeling with the GenAI Studio, CIS, and Platform teams. Actively mentored junior engineers and new hires on the Workday stack, Agent Forge, and evaluation methodologies.

• BioFrontiers Institute

Software Engineer

Boulder, CO

May 2024 - Jan 2025

- **Legacy Modernization:** Rebuilt a legacy website from Angular to Next.js with TypeScript, MUI, PostgreSQL, and Prisma, reducing maintenance complexity by 30% and future-proofing the system for long-term scalability.
- **Full Stack Optimization:** Developed high-performance backend API routes and a Server-Side Rendering (SSR) frontend, resulting in a 25% improvement in data rendering speed for large datasets.
- **Database & DevOps:** Migrated and restructured large-scale datasets in PostgreSQL to ensure 100% data integrity. Orchestrated containerized deployments using Docker Compose, reducing deployment time by 50%.

• Workday

Software Development Engineer Intern

Boulder, CO

May 2024 - Aug 2024

- **CI/CD Optimization:** Parallelized tasks and implemented comprehensive testing checks within the pipeline, reducing execution time by 15% and decreasing initial setup times by 25% through improved caching strategies.
- **LLM Error Standardization:** Researched unique error types across 6 different LLM providers and generalized them into a standardized interface, achieving a 13% reduction in unhandled exceptions.
- **Developer Tooling:** Built a Rich Text Editor tool for testing LLM capabilities, enabling developers to validate HTML formatting with a 90% success rate in prompt engineering.

• Trimble Cloud

Software Engineer

Boulder, CO

Sep 2023 - May 2024

- **Cloud Infrastructure:** Architected a full stack application infrastructure on AWS using Terraform for Infrastructure as Code (IaC), automating provisioning to accelerate deployment times by 30%.
- **Kubernetes & Serverless:** Established a Kubernetes cluster for microservices and deployed AWS Lambda functions for backend processing, leading to a 20% increase in processing efficiency and reduced service latency.
- **Database Management:** Managed RDS PostgreSQL instances, optimizing query performance by 25% through efficient schema design and indexing strategies.