

Rahul Shamkuwar

Denver, CO

Mobile : +1-669-282-0030

Email : rahulshamkuwar20@gmail.com

GitHub : rahulshamkuwar

LinkedIn : rahulshamkuwar20

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:** Typescript, JavaScript, HCL, HTML, CSS, Python, C/C++, Scala, Dart, C#, Java, SQL, NoSQL.
- **Technologies:** Node.js, Nest.js, React, Next.js, React Native, Flutter, Tailwind, Swagger, Postman, pandas, NumPy, JupyterLab, Scikit-Learn, PyTorch, Optuna, TensorFlow, Keras, Jest.
- **Tools:** AWS, OCI, Terraform, Kubernetes, Docker, GitHub Actions, Jenkins, Git, ESLint, Prisma, Firebase, Jira.
- **Knowledge:** Linux, CI/CD, UI/UX, Cyberbotics: Webots, VMWare, VirtualBox, Data Science, Agile.

EXPERIENCE

• BioFrontiers Institute

Software Engineer

Boulder, CO

May 2024 - Present

- **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 at least 10 years.
- **Full Stack:** Developed the backend with Next.js API routes and the frontend with Server-Side Rendering (SSR), SWR, and Chart.js, resulting in a 25% improvement in data rendering speed and responsiveness for large datasets.
- **Data Migration:** Handled an extremely large dataset, performing multiple PostgreSQL migrations to clean and restructure data, ensuring 100% data integrity and improving query performance by 20%.
- **Authentication & Authorization:** Designed an authentication system with role-based access control, enabling logged-in users to create, update, and delete data, increasing user management efficiency by 40%.
- **Deployment:** Orchestrated services using Docker Compose and built an optimized application image with a custom Dockerfile, reducing deployment time by 50% and improving overall performance by 15%.

• Workday

Software Development Engineer Intern

Boulder, CO

May 2024 - August 2024

- **Optimized CI/CD Pipeline:** Parallelized tasks and implemented comprehensive testing checks, reducing pipeline execution time by 15%. Introduced better caching strategies that decreased initial setup times by 25%.
- **Enhanced Error Handling:** Researched and documented unique error types across 6 different LLM providers and generalized them into a standardized interface, which resulted in a 13% reduction in unhandled exceptions.
- **Enhanced Frontend Accessibility:** Added and improved accessibility features related to keyboard navigation (tabbing) across various UI components, increasing overall accessibility compliance by 20%.
- **New Developer Tool:** Built a Rich Text Editor tool for testing LLM capabilities, enabling developers to test and validate HTML formatting with an 90% success rate in prompt engineering. Improved the tool's UI/UX, resulting in a 15% increase in user engagement and feedback.
- **Contributed to Application Stability:** Worked on over 20 critical frontend and backend tickets, directly contributing to the transition of the application from beta to a stable release.

• Trimble Cloud

Software Engineer

Boulder, CO

September 2023 - May 2024

- **Infrastructure Design:** Architected and designed the infrastructure for a full stack application, leveraging AWS services and ensuring a robust, scalable, architecture.
- **State Management Setup:** Initiated and managed the remote Terraform state file setup using AWS S3 and DynamoDB, reducing the likelihood of state file corruption and improving team collaboration efficiency by 20%.
- **Security and Load Balancing:** Integrated ELB with OIDC, enhancing security and load management, which restricted unauthorized access attempts and improved load balancing efficiency.
- **Serverless Computing:** Deployed AWS Lambda functions to handle various backend processes, improving scalability, leading to a 20% increase in processing efficiency.
- **Database Management:** Utilized RDS with PSQL for relational database management, optimizing data handling and retrieval, resulting in a 25% improvement in query performance.
- **Kubernetes Cluster Setup:** Established a Kubernetes cluster to host both backend and frontend services, enabling seamless communication and integration, which led to a 25% increase in deployment efficiency and a 15% reduction in service latency.
- **Infrastructure as Code:** Employed Terraform to automate the provisioning and management of the entire infrastructure, enhancing repeatability and reducing the risk of manual errors, while accelerating deployment times by 30%.