RUPAL JAIN

jainrupal@arizona.edu | (520) 343-7924 | Cupertino, CA-95014, USA | LinkedIn | Portfolio

EDUCATION

Master of Science in Computer Science | The University of Arizona, Tucson, AZ, USA | GPA: 3.63   *(Aug 2022 - May 2024)*
- **Specialization:** Software Engineering, Full Stack, Data Structures, Algorithms, Object-Oriented, Cloud computing

Bachelor of Technology in Computer Science Engineering | GGSIPU, Delhi, India | Grade: 8.64   *(Aug 2015 - May 2019)*

SKILLS

Languages: Python, C++, Java, Swift, C | **Web Development:** JavaScript, Node.js, R, HTML, CSS, D3.js, React
Databases: MySQL, Oracle PL/SQL, NoSQL, Data Migrations, PostgreSQL | **Tools:** XCode, VS Code, IntelliJ, PyCharm
Cloud services: AWS (Lambda, CloudWatch, RDS, EC2), GCP **| APIs/Frameworks:** Spring Boot, RESTful API, gRPC, Flask, SwiftUI
DevOps & Containerization: Docker, Kubernetes, CI/CD, Jenkins, Git, GitLab | **OS:** Linux, Windows, iOS | **Agile**

WORK EXPERIENCE

Software Developer Intern | Resilient Software Security | Remote   *(Jun 2024 - Present)*
- Designed telemetry dashboard integrated with CloudWatch for visualizing real-time application usage patterns and users footfall
- Created RESTful APIs using Steampipe to link Google Cloud, Azure and Slack into company's platform for seamless user connectivity
          (May 2023 - Aug 2023)
- Developed a scalable algorithm to generate software security analysis reports deployed on AWS Lambda using Docker container images reducing manual processing time from 7 days to under 1 minute
- **Technologies: JavaScript, AWS (Lambda, S3, CloudWatch RUM, EC2), React, Docker, REST API, GCP (Google API)**

Software Developer | Tata Consultancy Services | Mumbai, India   *(July 2019 - July 2022)*
- Engineered a batch processing system using Spring Batch to automate large-scale data imports and exports improving processing speed for millions of records by **60%**
- Integrated real-time application monitoring using Spring Boot Actuator and Grafana for performance tracking and alerting
- Revamped the legacy web interface by transitioning from server-side rendering to a React.js-based frontend with backend implemented using Spring Boot via REST APIs. Achieved a **30%** reduction in load latency and a **25%** increase in user retention
- Applied indexing strategies and query tuning reducing execution time of PL/SQL operations by **50%** resulting in faster data retrieval
- Optimized database interactions in Spring Boot applications by leveraging JPA and Hibernate caching reducing query execution time by 30% and improving system throughput for high-traffic endpoints
- Migrated client's backend systems from SAP ECC to S/4 HANA achieving 60% faster data processing speed and real-time analytics
- **Technologies: Java (Development & Support), Spring boot, REST API, Oracle PL/SQL, GitLab, CI/CD, Jenkins pipelines**

PROJECTS

Weather Forecast – Swift, iOS, SwiftUI, Lottie-ios, XCode [GitHub]   *(Nov 2024)*
- Designed a dynamic weather app using WeatherBit API, delivering real-time updates and 3-day forecasts for 376,000 cities. Engineered a sleek UI using SwiftUI with state management. Leveraged Codable protocol for JSON parsing. Simulated the app on iPhone 16
- Future enhancement includes interactive maps using MapKit, live location using Core Location API, pin favorite city, alert notification

Distributed Trading System – Java, Spring Boot, gRPC, MySQL [GitHub]   *(Oct 2024)*
- Built a containerized microservices-driven stock trading platform. Used Java Concurrency API thread pools & atomic synchronization for low latency, data consistency and safe concurrency. Integrated gRPC and SSE for live processing and performance monitoring
- Integrated MySQL with caching to handle 10,000+ concurrent transactions, ensuring scalability and reliability for critical operations

EdiLite Text Editor – C++, Linux, Ubuntu [GitHub]   *(Oct 2024)*
- Developed a text editor featuring efficient file handling, search, navigation, status bar, line numbers, and syntax highlighting
- Focused on terminal input handling, raw mode processing and efficient file operations like creation, editing and saving to disk

Badminton Tournament Management System for UA – Python, Flask, AWS EC2, RDS [GitHub]   *(Apr 2023)*
- Engineered application using Flask for handling registration, match assignments. Integrated PostgreSQL with Amazon RDS on EC2
- Conducted unit and integration testing with Pytest. Followed complete Software Development Lifecycle (SDLC) with detailed ADR

Data Visualization Projects – Python, D3.js, JavaScript [GitHub, Demo][GitHub]   *(Apr 2023)*
- Designed visualization for complex datasets using treemaps, volume rendering (VTK library) and vector field visualization in D3.js
- Built Graphical user Interface (GUI) using PyQT5, CV2 for image compression, QtGraph, matplotlib for plots, Pandas lib in Python

Volunteering: Girls Who Code**|**Member@RTC **| Teaching Assistantship:** Software Engineering, Cloud Computing, Web Development

CERTIFICATIONS

Google Cloud Computing Foundations Certificate [Certificate]   *(Aug 2024)*