Bhavanvir Rai

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EDUCATION

University of Victoria   Sept. 2019 - Dec. 2024
B.S.Eng, Software Engineering, Artificial Intelligence and Data Mining

EXPERIENCE

Full Stack Developer, Co-op   Victoria, B.C.
University of Victoria, Advanced Research Computing Software Development Team   Jan. 2024 - Aug. 2024
- Increased performance for a Django application by 62% with Redis using cache-aside and write-back strategies.
- Optimized database throughput using Celery for asynchronous task management, reducing queries by 59%.
- Constructed a robust UI testing framework utilizing Selenium Grid and Docker, enabling seamless data persistence and CI/CD integration; increased testing efficiency by 30% through parallel execution of test cases.
- Reduced API usage by 95% for a geographical data service by improving how GeoJSON coverage is handled.
- Designed a scalable policy validation system for OpenStack clouds with the Python SDK; the initiative improved cross-site policy consistency, positively impacting compliance audits for 7 key business divisions within the organization.
- Engineered a Django package that enabled the ingestion of Excel sheets into databases, resulting in a 40% reduction in data processing time and streamlined workflows for data management teams.

Quality Assurance Analyst, Co-op   Victoria, B.C.
ACD Systems   May 2021 - Dec. 2021
- Documented over 500 issues in Jira, overseeing defect management and report generation.
- Achieved 90% test coverage by thoroughly analyzing software functionality, performance, requirements, user stories, and use cases.
- Conducted over 100 tests across various testing types (functional, regression, integration, end-to-end) to ensure alignment with business and technical standards.
- Trained and onboarded a new employee, reducing their ramp-up time by 30% while maintaining high productivity across the team.
- Improved product efficiency by 15% and reduced response times by collaborating with engineering teams, reviewing user feedback, analyzing competitor software, and setting performance benchmarks.

PROJECTS

SinghSabha.net | *Next.js, TypeScript, Drizzle ORM, Resend, Stripe, Supabase, Vercel, TailwindCSS, shadcn/ui*
- Built a scalable web platform for a local Sikh Temple, featuring seamless booking services, an interactive event calendar, and a robust admin dashboard for efficient event and payment management.
- Automated payment workflows with Stripe, integrating deposit checkout links into Resend email notifications for a streamlined user experience.
- Delivered a modern, responsive UI leveraging TailwindCSS and shadcn/ui, while optimizing backend performance using Drizzle ORM and deploying on Vercel.

Nightrader | *React, DaisyUI, JavaScript, Go, PostgreSQL, Nginx, Docker*
- Architected a stock trading platform with microservices architecture, including a matching engine (Pro Rata algorithm), authentication, and transaction management, powered by Go, Gin-Gonic, and PostgreSQL.
- Designed a responsive front-end using React, DaisyUI, and TailwindCSS, facilitating seamless user interactions, and utilized Docker for efficient deployment and orchestration.

TECHNICAL SKILLS

- **Programming Languages:** Python, C, C++, Go, Java, JavaScript/TypeScript, SQL, HTML/CSS
- **Tools:** Docker, Kubernetes, Jenkins, Prometheus, Helm, Grafana
- **Databases:** PostgreSQL, MySQL, MongoDB, Redis
- **Cloud Platforms:** Vercel, AWS, Azure, Supabase
- **Testing:** Selenium, Playwright, Jest, JUnit, Pytest, SonarQube
- **Web Frameworks:** Django, React/Next.js, Svelte/SvelteKit, Node.js, Prisma, Drizzle ORM