Ryan Frederich

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Experience

Software Engineer (SRE), TikTok – San Jose, CA   Sept 2024 – Present
- Developed internal automation tools in Go and Python, including a bot that automates incident ticket creation (processing ~500 tickets daily), a migration tool saving hours of manual effort, and LLM-powered ticket categorization with visualization dashboards.
- Built a compliance-focused data access service, introducing comprehensive unit testing (0 to 100+ tests), CI/CD pipelines with automated checks, and refactored codebase using dependency injection and mocking frameworks for improved maintainability.
- Optimized monitoring systems by implementing throughput-based alarm filtering deployed across all regions, reducing false positives by 50%+ and creating dashboards tracking key SLA metrics, ticket trends, and resource utilization.
- Participated in on-call rotations handling incidents and service requests, consistently meeting SLA targets while creating technical documentation and knowledge transfer materials that improved team efficiency and onboarding.
- Engineered cross-region ETL pipelines to migrate large-scale data from Hive to aggregate datasets, streamlining multi-table joins for high-level dashboard analysis.

Software Development Intern, Callaway Golf – San Diego, CA   June 2023 – Sept 2023
- Developed components for an eCommerce site using JavaScript, JSP, and CSS, following Figma designs.
- Developed Bash scripts to streamline local setup and automate compilation, reducing setup time by 30%.

Computer Science Instructor, iD Tech – Remote   Sept 2022 – May 2023
- Taught computer science fundamentals using Python in both group settings (10+ students) and private lessons.
- Explained basic data structures, algorithms, and object-oriented programming concepts.

Education

University of California, Santa Cruz   Dec 2023
- B.S. in Technology and Information Management
- Minor: Computer Science

Projects

CLI Surf Report | *Python, JavaScript, Tailwind CSS, MongoDB, Docker, CI/CD*   github.com/ryansurf/cli-surf
- Developed a full-stack customizable surf reporting & forecasting tool, pulling data from an open-source weather API and using LLMs to generate surf reports in both JSON and user-friendly formats.
- Collaborated with 20+ developers, reviewed and merged pull requests, and helped contributors debug any errors.
- Configured CI pipelines to automate code quality checks and testing while integrating an AI code reviewer for PRs.

HomeLab | *Python, YAML, Bash, Docker, Ansible, Networking*   ryansurf.github.io/network_diagram.html
- Deployed a Docker-based DNS server for network-wide ad-blocking, cutting unwanted content by 50%.
- Self-hosted a secure VPN with dynamic DNS for reliable remote access.
- Configured VLANs to isolate guest traffic and upgraded to a custom-built PC router for enhanced security.

Skills

Languages: Python, Go, C++, JavaScript, HTML/CSS, SQL, Bash
Tools & Infrastructure: Git, Linux, Docker, Ansible, AWS, CI/CD, Postman, Jira, Grafana
Databases & APIs: MySQL, MongoDB, Redis, REST, RPC