Frank Fuentes

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PROFESSIONAL SUMMARY

Back-end software engineer with 6+ years designing and operating large-scale distributed systems and infrastructure-level backend services in Azure and Linux data center environments. Improved reliability and resource efficiency at scale by delivering control-plane and monitoring services that processed over 5 million requests, recovered over 1 million CPU cores through automated virtual-machine migration, and enabled safe control-plane migrations for over 3 million tenants with minimal disruption. Experienced in C#, C++, Go, Python, Java, and SQL, with a focus on high-availability platform services, performance and reliability of infrastructure that supports data-intensive workloads, operational excellence through observability and automation, and cross-functional collaboration to deliver resilient platforms.

WORK EXPERIENCE

Software Engineer II, Microsoft, Inc **December 2021 - June 2025**

- Increased infrastructure efficiency for large-scale distributed systems by recovering over 1 million CPU cores as measured in cluster capacity metrics, by designing and implementing a reliable, scalable, and maintainable event-driven backend service that identified low-utilization virtual machines and orchestrated long-running migration workflows across Azure compute clusters.
- Improved runtime reliability of shared backend services used by multiple teams by reducing hidden downstream failures across over 5 million requests as observed in health and telemetry dashboards, by building concurrent, real-time dependency checks and structured monitoring into service components to strengthen observability, availability, and overall software quality.
- Reduced time to detect and resolve production bugs in distributed systems by shortening incident timelines reported in postmortems, by engineering metrics-driven alerting, SLO tracking, and automated evaluation data pipelines with Grafana dashboards that processed high-volume telemetry in near real time and supported faster failure analysis, capacity insights, and iterative improvements to service operability and behavior.
- Enabled safe rollout of control-plane changes for over 3 million tenants by maintaining customer traffic availability with no migration-related outages, by implementing rules-based eligibility checks over tenant and VM state, automated validation gates, and phased rollout logic in migration workflows that coordinated state across services and data center regions.
- Reduced review rework and shortened new engineer ramp-up time as reflected in peer feedback and review cycles, by mentoring newer engineers, providing technical guidance on service architecture and deployment workflows, and leading code reviews focused on reliability, performance, and maintainability of distributed infrastructure services.

Software Engineer I, F5 Networks, Inc **December 2018 – December 2021**

- Improved deployment efficiency and CI/CD pipeline performance by 70% as measured by reduced pipeline duration and manual steps, by automating regression testing pipelines and refactoring Python test modules into reusable components for a distributed Linux-based networking platform and its control and management services.
- Improved diagnostics and observability for a Linux-based networking platform by developing Go backend services and REST APIs for traffic snapshot evaluation, analysis, and sensitive data redaction that generated over 1 million daily checks as captured in internal tools, enabling safer and more transparent troubleshooting of network state and performance in production environments.

SKILLS

Languages: C#, Python, C++, Go, Java
Cloud and infrastructure: Azure, Docker, Linux
Observability and tooling: Git, Grafana
Databases: MySQL, MongoDB

EDUCATION

***Bachelor of Science*, Computer Science with additional major in Mathematics, Seattle University**