Rafael Bayer

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Experience

Microsoft Azure, Redmond — *Software Engineer*

SEPTEMBER 2021 - PRESENT

Working on the scalability of the Azure Networking control plane, I optimize customer resource provisioning, and reduce E2E VM allocation times through cross-service collaboration. Leveraging data-driven insights, we enable the control plane to reliably handle billions of requests per day.

Collaborated with senior team members to implement a robust data normalization system for JSON database entries. This optimization significantly reduced the amount of data read and written, resulting in enhanced performance of control plane operations, especially the VM deployment hot path. Data migrations are performed on the fly and are entirely transparent to both customers and interdependent services.

Expanded feature-flag system to our API gateway, enabling seamless and secure deployment of new features. This enhancement also enables us to swiftly reconfigure our throttling system in response to high load or malicious customer traffic.

Microsoft Azure, Redmond— *Software Engineering Intern*

JUNE 2020 - SEPTEMBER 2020

Developed a configurable performance testing framework for a core networking service to validate the quality of all pull requests. Test framework records and compares execution time, CPU and Memory usage, GC pressure, and other key performance metrics.

Leveraged code instrumentation to produce tooling to assist in root cause analysis for performance regressions during development to prevent impact in production.

Geeking Out Kids of Color (GOKiC), Seattle— *Machine Learning Intern, Product Management Intern*

JUNE 2018 - SEPTEMBER 2019

Designed Machine Learning Curriculum for underprivileged South Seattle communities in after school programs during the 2018-2019 school year. Used Unity3D and the Machine Learning extension to design an AI to navigate simulated environments.

Managed a team of approximately 15 Microsoft employees at Microsoft Hack for Good using scrum and agile practices to rebuild the GOKIC.org website.

Education

University of Washington, Seattle — *BS in Informatics*

SEPTEMBER 2017 - JUNE 2021 | 3.74 GPA

Relevant courses:
Web Development, Databases, Data Structures & Algorithms, Data Science, System Design, AI, Backend Development, Programming Languages

Programming Languages

Proficient
C# | Python | Go | Rust | SQL

Familiar
JavaScript | Java | HTML | TypeScript

Technologies & Tools

Proficient
Git | GitHub | Azure DevOps | Docker | Windows | .NET | Django

Familiar
Azure | Unity | Linux | DigitalOcean | Flask | K6

Personal Projects

CivicQA

CivicQA is a Constituent Management platform created to assist legislative assistants with responding to high volumes of mail. CivicQA employs a microservices based architecture using Go and Docker. (See GitHub)

Puffin

Puffin is a dynamic programming language created from scratch, with an interpreter written in Rust. Puffin supports imperative and functional language features including structures and closures. (See GitHub)