

# Shay Kalyan

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## Experience

**Senior Software Engineer**  
**Software Engineer**  
[Microsoft, Redmond WA](#)

2022 – current  
2016

Xbox Services (2019 – current)

- Developed and shipped .NET microservices in a backend-for-frontend (BFF) architecture to power Xbox Store experiences across multiple surfaces (i.e., console, PC, mobile), collectively serving over 10k requests per second (RPS) globally with high reliability (99.99%+ success rate).
- Architected and optimized services to serve real-time product data to clients. Moving pieces include the ingestion of Microsoft-wide product catalog into Xbox's infrastructure to the processing of complex business rules using distributed message workflows with a throughput of over 2,000 products per second. Utilized SQL DBs with compression to save over 40% in storage costs along with caching in the hot path to improve request latencies from over 200ms to less than 20ms. Primary developer of business logic and RESTful APIs, writing over 80% of the code and reviewing the rest.
- Collaborated and contributed in a cross-organizational effort, adapting quickly to unfamiliar codebases to support various Xbox scenarios. This included optimizing licensing flows for game add-ons used by titles such as Forza Horizon 5 and Halo Infinite to now avoid millions of 10MB stubbed blob transfers per prior implementation.
- Created an automated solution to rapidly detect and recover corrupt service nodes, significantly reducing Time To Detection (TTD) and Mitigation (TTM) from over an hour to minutes. This played a critical role during the rollout of the new Xbox Console Store in late 2020, preventing over 30 occurrences of live-site incidents and eliminating the need for manual intervention.
- Promoted Xbox Culture as part of Culture Team, hosting meetups and coordinating charity initiatives. Led to over a 10% increase in employee participation in 2021 charity events.
- Managed prioritization and backlog grooming for the team in support of organizational objectives and key results.
- Mentored interns and new hires, acclimating them to the culture and processes to guide them towards success. All three mentored interns completed their respective projects and joined the company as full-time employees.
- Participated in hiring events for the organization by interviewing early-to-mid career candidates, evaluating their technical performance and engineering competencies per company-driven criteria to determine hireability.

Windows Engineering System Services (2016 – 2019)

- Integrated dynamic virtual machine allocation using C# and a suite of managed microservices to evolve the Windows OS test-orchestration infrastructure. Resulted in reduced physical lab costs with specific hardware now virtualized and fungibility of resources, improved performance with use of modern compute and SSD-backed storage, and increased test completion reliability from below 95% to 99%+.
- Developed cloud-scalable services using Azure Service Bus distributed messaging, Azure Service Fabric service orchestration, and Azure Cosmos DB (NoSQL) storage technologies.
- Established continuous integration and deployment practices using Azure DevOps, championing its adoption across the team.

**Intern Software Engineer**  
[Microsoft, Redmond WA](#)

2015

- Implemented a proof-of-concept dynamic virtual machine allocation in the internal Windows test orchestration system using C#, XML, and Perforce version control. This was integrated with the existing distributed microservices architecture.

## Languages and Technologies

### Languages

- **.NET, C#:** Highly proficient in developing large scale microservices and web applications using the latest .NET technology and tooling, including Dapper, Polly, and Moq.
- **SQL:** Working knowledge of SQL with experience in designing and optimizing databases for performance and scalability.
- **JavaScript, HTML, CSS:** Familiar with front-end web technologies for responsive and user-friendly web interfaces.

### Technologies

- **ASP.NET:** Proficient in building enterprise-grade web applications using ASP.NET, with experience in designing and developing scalable and fault-tolerant solutions.
- **Kubernetes:** Familiar with containerization and orchestration using Kubernetes for scalable and resilient applications, e.g., 100+ services across multi-region clusters leveraging Docker, Helm, Istio and Prometheus.
- **Azure:** Experience in using various Azure services such as SQL, Service Fabric, Service Bus, Event Hub, CosmosDB, Cloud Storage, and Functions for building and deploying cloud-native applications at scale.
- **Terraform:** Experience in using Terraform for Infrastructure as Code (IaC) to deploy and manage cloud resources.

### Other

- **Distributed Systems:** Experience in the design and development of distributed systems and workflows, building solutions that can handle large-scale traffic and reliable data processing.
- **API Design:** Experience in designing and developing APIs that are efficient, scalable, and easy to use.
- **CI/CD:** Experience in implementing Continuous Integration and Continuous Deployment (CI/CD) pipelines for automated software delivery and release management.

## Education

### Bachelor of Engineering (Honors), Software Engineering (A+ Average)

2012 – 2015

[The University of Auckland, New Zealand](#)

- Dean's Honours List: awarded to the top 5% of Software Engineering students in the academic year (2012, 2013, 2014).
- Six First in Course Awards: received the highest overall marks in courses (SOFTENG 370, 325, 306, 206; COMPSCI 314; ENGGEN 131).

## Projects and Open Source

### Professional Blog

[shaykalyan.com](http://shaykalyan.com)

- Posts include [Review the code, not the coder](#) and [Have a new outlook on productivity](#).
- Website built with HTML, Sass (CSS preprocessor), and a static blog using 11ty, hosted via GitHub Pages.

### Tab Notes Browser Extension

[github.com/telemaciek/tab-notes](https://github.com/telemaciek/tab-notes)

- Contributed to a Chromium extension that replaces the browser's New Tab Page with a "notepad" by adding a dark mode theme and UX to toggle. The extension has over 5,000 active users.