Yong **Zhi Yuan**

ASP.NET Core 9 · Clean & Secure Code

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Summary

• Software Engineer with 6 years of experience building web applications & 4 years of experience co-leading a team. Tools & techniques used: ASP.NET Core 9, EF Core 9, Blazor, Azure, OAuth 2, Integration & Unit Tests, GitHub Actions, Microservices, Clean & Secure Code.
• Documenting my learnings on Software Engineering & Security.
• Highlight: Article on Async / Await received over 33k post views and over 430 reactions to date (written 5 years ago).
• Answers on StackOverflow: JSON Web Token, Personal Access Token.
• Deliberately stepped away from full-time employment twice to focus on self-initiated projects.
• Fun facts: I use a split keyboard (Corne-Choc) and use Vim emulator on the IDE to code!

Work Experience

Career Break
Singapore
Personal goal pursuit
Nov 2024 - Present

• Volunteered in a non-profit organization by developing a web application to ease data entry processes. Being the only developer, I had the opportunity to work on the entire Software Development Life Cycle:
• Gathered user requirements using Domain Storytelling techniques.
• Developed the software in iterations using Blazor WebAssembly (hosted on Azure Storage) with FluentUI, ASP.NET Core 9 (hosted on Azure Container App), EF Core 9, Azure Cosmos DB, Auth0 (because Azure Entra ID is more complex), ReBAC, MassTransit (to facilitate a little of Modular Monolith), Vertical-Slice Architecture, Minimal API (using Reflection to wire up the endpoints that are located in other files), Dev Containers, and GitHub Actions (Continuous Deployment, Dependabot, Gitleaks), Discriminated Union (using OneOf library). ~5kLoC.
• Software now in production.

Illumina
Singapore
Senior Software Engineer
Jun 2024 - Nov 2024

• Loved working with the best tech lead of my life.
• Collaborated with cross-regional stakeholders to develop new features in a microservice architecture, applying knowledge of ASP.NET Core 8, EF Core 8, RabbitMQ with MassTransit, OAuth 2, GitHub Actions, Docker, Kubernetes and Helm.
• Deep-dived into OAuth 2 and its usage in the existing codebase and proposed mitigations. Presented findings to an Associate Director & a Principal Engineer. More info on my learnings in my blog post, also answered StackOverflow questions on JWT & PAT.
• Refactored code to Vertical Slice Architecture (VSA). More info on my opinions in my blog post.
• Re-designed how tests are written, resulting in drastically reduced test runtime and allowing developers to own their tests instead of handing the tests to a test team. More info on the guiding principles in my blog post.
• Created the team's blog and wrote multiple articles to showcase our work.
• Presented to the wider team in multiple knowledge sharing sessions.
• Wrote and reviewed multiple Request for Comments (RFCs), design documentation and guides for internal users.
• Re-evaluated use of Keycloak as the OAuth 2 Server and compared with the alternative of OpenIddict & ASP.NET Core Identity.
• Revamped the format for interviewing candidates to better assess their capabilities and interviewed interns & candidates for full-time positions.
• Mentored junior engineers by conducting code reviews and pairing with them for multiple tasks. Also inspired them to do better work, sometimes through hard conversations such as performance and behavior related conversations.
• Initiated migration of Jenkins CI to GitHub Actions.

Illumina
Singapore
Software Engineer 2
Apr 2022 - Jun 2024

• See above.

Illumina
Singapore
Software Engineer 1
Feb 2021 - Apr 2022

• See above.

Career Break
Singapore
Personal goal pursuit
Jul 2020 - Feb 2021

• Created a Web Application for me and my partner, where I independently learnt and applied knowledge of Azure, Blazor WebAssembly, ASP.NET Core, EF Core & Vertical-Slice Architecture.
• Participated in a hackathon and led a team of 2 Software Engineers to gather User Requirements, design UI and explore technologies such as Optical Character Recognition and Facial Recognition.

ST Engineering   *Singapore*

Software Engineer   *Dec 2018 - Jul 2020*

- Developed new product features using ASP.NET Core, EF Core, SignalR and SQL.
- Provided technical guidance for a team of 4 developers by performing code reviews and suggested improvements and best practices to follow.
- Identified, initiated and implemented easy wins for the team through automation.

NUS   *Singapore*

Tutor - Programming Methodology   *Aug 2016 - Nov 2016*

- Led a group of 12 students in discussions to familiarize with fundamental concepts of problem-solving using C.
- Achieved an Overall Effectiveness Score of 4.40 (0.23 higher than the faculty average in School of Computing).

Edu**cation**

National University of Singapore (NUS)   *Singapore*

Bachelor of Computing (Honours) in Computer Science

                                                                     Aug. 2015 - Dec. 2018

Focus Areas: Software Engineering, Computer Security

- CAP: 4.45 / 5
- Achieved A+ grade for the following modules: Data Structures & Algorithms, Design & Analysis of Algorithms, Software Engineering, Thematic Systems Project