Balaji Sivakumar

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Professional Summary

Early-career Software Engineer on the Azure Physical Networking team, delivering reliable backend components and internal tooling. Skilled at transforming ambiguous problem statements into measurable MVPs, instrumenting changes end-to-end, and standardizing build readiness for faster, safer releases. Actively expanding expertise in Artificial Intelligence and deepening knowledge of network engineering within Azure's hyperscale networking environment. Maintains a lifetime quest of technological improvement.

Technical Skillset

- **Programming Languages**: C#, Python, Javascript, Java
- **Core Skills**: ASP.NET (.NET Core, MVC, Web API), spring boot, Javascript, NoSQL: MongoDB, Relational Databases: MySQL, Microsoft SQL server, Github, Cloud Technology: Azure.
- **More Tech Skills**: Data Structures and Algorithms, Object-Oriented Design, Software Design, Data management, Web Services, RESTful API Design, System Design, Software Testing, CI/CD pipelines, Agile Software Development, , Postman.

Experience

Software Engineer, Microsoft - Dublin, Ireland March 2025 – Present

- Contribute to the design and implementation of backend components that support Azure's physical network (reliability, scalability, and operational efficiency), partnering closely with senior engineers and PM/SRE counterparts.
- Part of a greenfield effort in Azure Physical Networking, building products from the ground up using advanced technologies and modern engineering practices
- Build production-quality code with robust unit/integration testing, CI/CD hygiene, and telemetry-first instrumentation; analyze operational data using Kusto/ADX to validate health and drive improvements.
- Participate in design and code reviews, write technical documentation, and drive clarity from problem statement, initial version, iteration plan (MVP-first, versioned deliverables). Collaborate across teams within Azure Networking/APN to align on interfaces, dependencies, and rollout plans; proactively document risks, challenges, and mitigations.
- Building and contributing to Artificial Intelligence project which makes ease for the new and existing developers to understand the dependencies, functionalities and flow of the project "Query the Core" diagnostics to verify core paths; reduced triage time from couple of months to couple of days.

Software Developer, Zinier Technologies - Bengaluru, India Sept 2021 – Aug 2023

- Maintained web application front-end and back-end services, ensuring security, scalability, and performance for real-time payment processing. Orchestrated CI/CD pipelines with Git CI, streamlining development and ensuring continuous integration.
- I've developed and maintained web applications for a fast-growing field service automation company using ASP.NET Framework and React. With good time management, I expedited product delivery by 40%, enabling early project start, client onboarding, and best user experience.
- Developed REST APIs for service automation, using ReactJS, JavaScript, Redux, and asynchronous technologies. Achieved maintainable code with reusable components, reducing debugging time by 25%.
- Led the team, demonstrated analytical thinking, and embraced flexibility to meet customer expectations, delivering 5 applications on time using Agile Project Management Methodology. Crafted unit test cases and integrated open-source automation frameworks for web application testing.
- Resolved conflicts and ensured smooth communication within the technical team using strong problem-solving and critical thinking skills. Excelled in collaboration and relationship building with external teams like Toshiba, Black and Decker, Community Fibre Limited, and Compugen.

Software Developer Trainee, Softura Technologies - Chennai, India Sept 2020 – Aug 2021

- Acquired end-to-end ownership of 10+ applications, where I designed and developed React components, ASP.NET MVC for entire workflows, and MS-SQL Management Studio. Showcased strong capacity to learn and master new technologies quickly.
- Development teams are responsible for planning, task management, and progress reporting. They also contribute to architectural design, strategic decision-making for performance and security, and integrating third-party APIs and SDKs for system interoperability
- Enhanced software code quality through problem-solving and adherence to coding standards. Eliminated obstacles and facilitated comprehension among project teams. Proficiently delivered over 10 applications using JIRA within a Scrum framework, resulting in a 25% enhancement in application performance.
- Designed fast and reliable Web Applications with route-based code splitting for improved performance and security. Achieved an 18% reduction in crash rates and doubled update deployment speed after technology stack upgrades.

Education

Dublin City University, Master's in Computing (Secure Software Engineering) Sept 2023 – Sept 2024

- **Coursework/Skills:** Secure Programming, Concurrent Programming, Formal Programming, Network Security, Software Process Quality, Cryptography, Blockchain.

Anna University, Bachelor of Engineering (Computer Science) Aug 2017 – May 2021

- **Coursework/Skills:** Object Oriented Programming(C++), Data Structures and Algorithms, Java Programming, DBMS (Database Management System), Web Technology, Mobile App Development, Software Engineering, Software Quality Assurance, Network Programming, Machine Learning, Cloud Computing, Artificial Intelligence

Projects

Decomposition of Monolith to Microservices and Security Analysis June 2024

- This research addresses the security challenges encountered during the decomposition of monolithic applications into microservices, focusing on vulnerabilities highlighted by the OWASP Top 10 and standard security metrics. Using automated tools like Mono2Micro for system decomposition and SonarQube, Snyk, and Docker Scout for comprehensive security analysis, vulnerabilities were identified and mitigated in both architectural styles. The study further implemented a deep learning-based solution, VulDeepScannerMonoMicro, which enhanced the detection of complex security issues. This approach integrated deep learning models with automated analysis tools, significantly improving vulnerability detection accuracy. The findings underscore the importance of prioritizing security as a core consideration in architectural transitions from monolithic to microservices

Clinical Management System using ASP.NET MVC (NET 6.0) August 2021

- The Clinical Management System is a web application built with ASP.NET MVC, Entity Framework Core, and MS SQL that streamlines clinic operations by enabling patients to view doctor availability and book appointments accordingly. Utilizing MVC architecture, the system organizes features like authentication and role-based access with ASP.NET Core Identity, ensuring secure access for both administrators and patients. A central dashboard, crafted with Bootstrap, HTML, CSS, and JavaScript, offers a responsive interface where patients can manage bookings and administrators oversee clinic resources. The MS SQL database is seeded with physician schedules, enabling quick appointment bookings aligned with doctor availability. Entity Framework Core manages data interactions, while JavaScript enhances dashboard interactivity.