Charles Lui
Senior Software Engineer

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Profile Summary

Highly adaptable senior software engineer with over 12 years of experience specializing in object-oriented programming using C# and .NET with extensive experience in designing, and developing modern scalable applications and RESTful APIs. Quick learner that has led technical projects, optimized complex SQL database interactions, and implemented robust CI/CD pipelines and infrastructure as code. Adept at cross-functional team collaboration, troubleshooting challenging issues, and driving code quality and process improvements within Agile environments.

Technical skills

Languages: C# (.NET), PowerShell, Python, Shell script
Databases: **SQL:** MS SQL Server, MySQL / **NoSQL:** DynamoDB
Version Control Systems: Git, GitHub, GitLab, BitBucket
CI/CD: AWS CodeBuild, CodePipeline, TeamCity
Servers: Windows Server, Ubuntu/Linux, SSH, Putty, Nginx
Cloud: AWS (including: Lambda, S3, EC2, ECS, ECR, Kinesis, IAM, SNS, SQS, CDK, DynamoDB, RDS, CloudFormation, CodeBuild, CodePipeline, CloudWatch)
Development Tools: Visual Studio, VS Code, Docker, REST APIs, Postman, Web browser DevTools, SQL Server Management Studio, SQL Server Reporting Services, MySQL Workbench
Monitoring & Logging: Datadog, Sumo Logic, PagerDuty, CloudWatch
Project Management & Collaboration: Jira, Confluence, Trello, Slack

Education
Oregon State University
B.S. in Computer Science (2013)

Languages
English: Fluent

Professional Experience

Eleven Software - *Software Engineer*   *11/*2014 - Present

- Designed and implemented integrations between networking hardware APIs and SaaS back end code (C#), making the system more extensible and modular to be able to work with the latest enterprise customer hardwares.
- Contributed to the latest version of our time series reporting project, designing and implementing infrastructure using microservices, and an event-driven architecture.
- Architected software with a focus on scalability, performance, and maintainability.
- Analyzed codebase and system performance to identify and address inefficiencies, resulting in improved processing speed and cost savings.
- Led technical projects within the team and collaborated across teams to achieve project milestones.
- Revamped and modernized a legacy monolith C#/.NET application, improving performance and maintainability.
- Designed and implemented a software solution for integrating a card chip reader as a payment option during guest registration into hospitality guest computers.
- Developed and consumed REST APIs, facilitating microservice interactions and external system integrations.
- Maintained a Windows service application on AWS EC2's to process high-volumes of RADIUS network packets from customer hardware ensuring sustained performance and reliability of the system.
- Investigated, debugged, and resolved challenging bugs and technical issues.
- Performed thorough code reviews, providing constructive feedback to peers.
- Developed C# applications interacting with APIs, MSSQL databases, and stored procedures, utilizing a custom ORM.
- Created comprehensive test plans and developed suites of unit tests (using NUnit) for application components.
- Mentored and onboarded new team members, helping to accelerate their productivity and team integration.
- Administered and managed the company's on-call schedule using PagerDuty.
- Handled and resolved emergency calls and critical situations as part of the on-call rotation.
- Responded promptly to production incidents, minimizing system downtime and impact.
- Contributed to the management and optimization of a large and complex MS SQL database.
- Assisted in optimizing complex SQL queries and database performance for high-volume applications.

- Optimized and managed CI/CD pipelines, improving build and deployment efficiency for the team.
- Created infrastructure as code (IaC) using AWS CloudFormation and CDK to provision and manage cloud resources.
- Interpreted design specifications and gathered detailed requirements for software projects.
- Coordinated and performed deployments across various environments and systems.
- Contributed to and enhanced change management procedures, improving process efficiency.
- Participated in process improvement initiatives, streamlining team workflows.
- Prioritized and executed tasks efficiently to meet project deadlines.
- Created system and flow diagrams and documentation to visually represent application architecture and processes.
- Analyzed technical requirements and defined project scope and deliverables.
- Collaborated cross-functionally with teams across the company to achieve shared objectives and key results.
- Pursued continuous learning through company-sponsored training programs to enhance technical skills and knowledge.
- Completed regular yearly training on information security policies, ensuring compliance and data protection.
- Migrated and modernized legacy applications to leverage the latest .NET framework features and upgrades.
- Collaborated closely with the product team, translating technical designs and requirements for non-technical stakeholders.
- Groomed and prioritized Jira ticket backlogs with the team to ensure alignment with project and company goals.
- Maintained and refined team backlogs, facilitating sprint planning and execution.
- Authored technical documentation for projects and system architecture.
- Created and updated documentation to improve code maintainability and onboarding efficiency.
- Wrote detailed API specifications to ensure clarity and ease of integration for consuming services.
- Managed Git repositories and handled pull request merges, ensuring code integrity and version control.
- Generated reports from various data sources and databases to provide insights for decision-making.
- Extracted and transformed data to create informative reports and dashboards.
- Performed data analysis to identify trends, patterns, and anomalies within system data, Sumo Logic and logs.
- Prioritized incoming feature requests and tickets and delegated tasks as a team.
- Performed integration testing to verify the interaction between different system modules.
- Configured and integrated static analysis tools into the development workflow to improve code quality.
- Coordinated with remote internal and contractor teams, managing communication and deliverables across timezones.
- Performed root cause analysis and implemented solutions for complex system problems.
- Regression tested complex and manual test cases to validate system stability before and after changes.
- Validated core application features post-deployment through targeted smoke tests.
- Authored release documentation outlining deployment steps, verification procedures, and monitoring protocols.
- Followed established coding standards to ensure code consistency, readability, and maintainability, facilitating easier collaboration and reducing technical debt.
- Hosted knowledge-sharing sessions to educate the team on projects and the on-call system and usage.
- Collaborated with other engineering teams to drive the successful delivery of company-wide initiatives.
- Refactored inefficient code to enhance code quality, maintainability, and performance.
- Managed and guided project execution, coordinating efforts within the team and with external stakeholders.
- Utilized logging libraries to send application logs to aggregation and analysis tools.
- Implemented centralized logging solutions to enhance monitoring and troubleshooting capabilities.
- Planned and defined application metrics for monitoring, integrating with platforms like CloudWatch and Datadog.
- Scripted test data generation tools using PowerShell and Bash to support comprehensive testing efforts.
- Applied object-oriented programming (OOP) design principles to develop modular, maintainable, and scalable applications.
- Maintained and managed multiple application environments (development, staging, production) to support the software development lifecycle.
- Utilized Scrum (Agile) framework principles and practices to manage project sprints and team workflows.
- Experienced with NoSQL databases (AWS DynamoDB) for scalable data storage and retrieval.