Jacob Lynch

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Professional Summary

Senior Software Developer with 18 years of experience in backend development, system design, and scalable cloud solutions. Proven expertise in delivering robust architectures, high-performance applications, and results-driven development cycles.

Professional Experience

Senior Software Engineer II, Carvana

Jun 2022 – Present

- Provided technical leadership on the team responsible for backend services powering high-traffic vehicle search.
- Developed backend services using C# and ASP.NET, hosted in Kubernetes, with Azure DevOps for source control and CI/CD pipelines.
- Designed and implemented a service to convert text-based searches into Elasticsearch queries, providing fast and accurate results.
- Identified and resolved complex data synchronization issues between search pages, enhancing data consistency.
- Mentored junior engineers by guiding them through problem-solving processes and breaking down technical challenges.

Senior Software Engineer, Shelvspace (Acquired by Wiser)

Dec 2014 – Jun 2022

- Designed and developed backend systems for a CRUD application using Parse, MongoDB, AWS, and Node.js, serving REST APIs to multiple platforms.
- Architected Elasticsearch indexes to enable real-time, multi-dimensional location searches, enhancing data retrieval.
- Built scalable ETL pipelines for sales data processing using Hadoop on AWS EMR.
- Developed Docker-based Node.js containers for AWS ECS Fargate to manage long-running background jobs efficiently.
- Leveraged AWS Step Functions for error-resilient systems with automated notifications and retries.
- Constructed an API for third-party customer access using AWS API Gateway and Lambda.

Software Engineer, GlobalMed

Mar 2014 – Dec 2014

- Managed a team of three engineers to develop a cloud-based medical study web application, ensuring delivery ahead of schedule.
- Designed and implemented Java-based backend services and user-friendly web interfaces.

Software Engineer, General Dynamics C4S

Sep 2008 – Mar 2014

- Engineered a fault-tolerant health monitor for software-defined radios across multiple processors, increasing system uptime.
- Designed C++ SNMP proxy applications to bridge GUI and control software, improving user interface responsiveness.

Network Exploitation and Vulnerability Analyst, Department of Defense

Aug 2006 – Aug 2008

- Analyzed thousands of lines of assembly code to identify security vulnerabilities and propose mitigations.

Technical Skills

Programming Languages: JavaScript, TypeScript, Python, C#, Java, C++, C
Frontend: HTML, CSS, React, VueJS, Svelte, Redux
Cloud: AWS (Lambda, EC2, S3, API Gateway, Step Functions, EMR, VPC, DMS, IoT), Azure (Service Bus, DevOps)
Data: MySQL, PostgreSQL, MongoDB, DynamoDB, Redshift, Aurora, SQL, Redis
Tools: Elasticsearch, Docker, Hadoop, Node.js, Tableau, Jenkins, Splunk, Datadog, Snowflake, Swagger
Other Expertise: Distributed Systems, Microservices, High Availability, DevOps, Automation

Education

Master's Degree in Information Assurance
Iowa State University, May 2006

Bachelor's Degree in Computer Science
Iowa State University, May 2004