

Ben Crouse | Principal Software Engineer

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Principal Software Engineer & Technical Lead with over 15 years of experience specializing in the architecture, design, and development of scalable, high availability distributed systems. Proven track record leading cross-functional teams to modernize legacy platforms and deliver complex microservice-based solutions. Focused on results driven leadership through setting engineering direction, mentoring developers toward independence, and driving AI coding assistant adoption. I am passionate about building products that solve business challenges.

Skills

Architecture & Design	Microservices, DDD, API Design, Distributed Systems, Scalability, Performance, Chaos Engineering
Cloud & Devops	Azure Functions, PAAS, Cosmos DB (NoSQL), Service Bus, App Insights, CI/CD Pipelines, Alerting
Languages & Frameworks	C#, Javascript/Typescript, .NET, ASP.NET Core, Node.js, SQL
AI & Automation	AI Coding Agents (GH Copilot, Claude Code, etc), Synthetic Data Generation, Automated Testing
Leadership	Technical Strategy, Cross-Team Initiatives, Mentoring, Product Roadmaps

Professional Experience

Principal Software Engineer / Lead Developer | CarMax | 2020 – Current

- Led the architectural design and development of a cross-team platform that will replace multiple legacy systems and allow the business to build and test new capabilities faster. Cleared technical bottlenecks to keep the initiative on track to hit our major milestones.
- Set the technical and architectural direction for our platform and services. Translate complex business requirements into roadmaps and technical designs by working with the product manager and key stakeholders.
- Architect and engineer resilient distributed systems that are the core of our platform. Our platform is the backbone of the business area with over \$1 billion in revenue and supports many internal customers. Set SLO, RTO, RPO, and other key metrics to establish needs and expectations of the platform while keeping the costs of both engineering and infrastructure in control.
- Plan and facilitate chaos gamedays to find weaknesses in our monitoring and alerting, as well as provide hands-on support experience for the team.
- Build and run systems in Azure cloud in a multi-region configuration using technologies like App Services, Functions, Cosmos DB, KeyVault, and Service Bus.
- Lead developer discussions, set code review guidelines, create release norms, and other team related standards.
- Led a multi-team initiative to enhance system scalability and performance delivering significant improvements of over 10x of the baseline performance.

Senior Software Engineer | CarMax | 2018 – 2020

- Addressed a memory leak issue that caused regular downtime in Connect, which other developers were unable to identify the root cause of

- I was the primary back-end developer of Offer Hub and led the API design and development. My experience with service development enabled me to design a loosely coupled API that enabled us to implement new features quickly while minimizing the impact on existing features.
- Participated in the development of Instant Offer as part of the small team before the product was publicly announced

Senior Software Developer / Application Architect | Paymerang | 2018

- Architected and developed a new product designed to bridge integrations with the company's product and third-party systems
- Led adoption of new technologies, including Node.js, .NET Core on AWS Lambda functions, and Selenium for testing
- Created pipelines to build and deploy code with a reliable and repeatable process

Senior Consultant | SingleStone | 2017 – 2018

- Provide expertise on projects by using both experience and quickly learning new technologies to be productive on a project from the start of the client engagement
- Designed and delivered a solution using the actor pattern implemented in Akka.NET, capable of prioritizing a list of clients to call in real-time while responding to multiple factors that affected the order of the list
- Rewrote a legacy application for a Fortune 500 company using Node.js and Angular
- Developed serverless web applications using AWS Lambda and Azure Functions

Software Developer | The Payments Company | 2016

- Worked directly with CTO to provide guidance on developing innovative solutions
- Participated in the full software development lifecycle as part of the company's small development team

Senior Software Developer | CarMax | 2013 – 2016

- Developer on the Merchandising team responsible for all parts of the software development lifecycle, including participating in on-call support
- Took over as the primary developer on a large payments project (Match and Pay) and also took on the responsibility of the ESB development for this project
- Part of the initial team for a new development project to replace a paper process (Connect)
- Worked with the Solution Architect for the initial design of the project and presented to the Architecture Review Board

Developer | Pembroke Occupational Health | 2011 – 2013

- Web Developer responsible for maintenance and new development of a document management system
- Worked with project managers to define business requirements before designing and implementing solutions
- Worked with many other systems, including the customer website, for drug test scheduling, reporting systems, and data interchange

Web Developer | Salem Web Network | 2010 – 2011

Software Engineer | Torrential Data Solutions | 2007 - 2010

Education

Bachelor of Science, Computer Science, Virginia Tech, Blacksburg, VA