

Scott Johnson

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Summary

Highly skilled software engineer with 15+ years of experience in computer graphics and computational geometry across a variety of technical stacks. Passionate about open-source software, high-performance rendering, clean code design, and learning while mentoring other developers through code review, individual pairing sessions, and leadership principles.

Work Experience

Remote

Capture Software Engineer at Chromatic

Mar 2023 - Present

- Develop distributed screenshot and image differencing system for Storybook apps, ensuring reliable regression detection.
- Maintain and improve capture infrastructure using Docker, Heroku, and AWS.
- Develop and improve Service Oriented Architecture (SOA) services using Typescript, Go, and Node Javascript (ES5/6).
- Apply browser and rendering expertise to improve image differencing algorithms, increasing accuracy and reliability.
- Collaborate on cloud architecture to achieve measurable improvements in deployment speeds.

Worked on the capture cloud, a distributed system for taking screenshots of Storybook applications in browsers and comparing them for regression detection. Maintained the capture infrastructure using Docker, AWS ECS Fargate, ECR, EC2, and other associated services. Developed code for microservices using Typescript, Go, and ES5/6. Provided expertise in browser rendering, browser architecture, and image differencing algorithms.

Skills: AWS, Terraform, Typescript, Javascript, NodeJS, React, Playwright, Storybook, go, Make, Docker

Founder/CEO at FoamFactory

Jan 2021 - Mar 2023

- Led development of brewery management app, enhancing efficiency for brewers worldwide, using React and Ruby/Rails.
- Implemented microservices in Rust, Go, and NodeJS to ensure good software engineering principles of responsibility separation and data encapsulation.
- Created reusable React component library using Storybook, improving developer efficiency and software reusability.
- Pioneered strategic growth initiatives, enhancing operational efficiency and market reach through innovative tech solutions.
- Led efforts for the acquisition of venture capital funding to drive growth and plan for future expansion.

Skills: Javascript, React, Rust, Go, Ruby/Rails, NodeJS, Webpack, Storybook, Web Components, WebSockets

Principal Engineer at Medal**Dec 2019 - Jan 2021**

- Enhanced Electron app with audio/video controls for gamers using React and Typescript.
- Contributed to R&D, build systems, and integrations, improving application performance.
- Implemented hardware graphics recording, boosting user experience and functionality.
- Led cross-functional teams to enhance software architecture, boosting system efficiency and performance for seamless user experiences.

Skills: Javascript, React, Storybook, WebComponents, Electron, NodeJS**Lead Graphics Engineer at InVision App****Dec 2016 - Dec 2019**

- Led development of Studio's rendering engine, enhancing vector graphics editing capabilities.
- Utilized WebGL and haXe (a language similar to Typescript) for efficient GPU-based rendering of complex vector graphics.
- Created a high-performance, GPU-based Bézier path rendering system, improving visual quality and rendering speed of the application.
- Utilized GLSL for shader programming, achieving stunning visual effects in WebGL.
- Prototyped WebAssembly-based rendering engines, exploring Rust and Skia for future improvements.

Skills: haXe, Javascript, WebGL, Electron, React, WebAssembly, C/C++, Rust

Minneapolis, MN

Engineering Team Lead at When I Work**Sep 2014 - Dec 2016**

- Led team to innovate Android app solutions, enhancing user engagement and satisfaction, reflected in improved app ratings from 2.9 to 4.0.
- Mentored team of 3 skilled developers, enhancing their skills and productivity.
- Managed CI environment with tools like TravisCI and CircleCI.
- Implemented code quality standards through the use of code reviews, test coverage analysis, and static analysis processes.
- Coordinated agile practices, improving project delivery times.

Skills: Java, Android, Javascript, Project Management, Mobile Development

Edina, MN

Android Engineering Lead at Jingit**Nov 2013 - Sep 2014**

- Led cross-functional teams in developing an Android app for retail rewards, enhancing app features, as well as driving substantial engagement and user satisfaction.
- Boosted team productivity by 10% weekly through agile processes and coding standards.
- Implemented automated testing and CI through the use of Jenkins, improving code reliability on Android and iOS.
- Streamlined the push notification system, ensuring timely user updates and messaging across all devices.
- Oversaw app lifecycle, from feature design to successful Google Play Store release.

Skills: Java, Android, Agile Project Management, iOS, Push Notification Systems, Javascript, NodeJS

Remote

Platform Engineer, Layout at Mozilla

Jun 2011 - Oct 2013

- Developed Gecko platform code for Mozilla products using C/C++, Java, Python, Rust, and more.
- Boosted web gaming stability and performance using WebGL and DirectX for cross-platform compatibility.
- Implemented W3C-compliant rendering systems, enhancing cross-platform compatibility.
- Created layout code for Firefox Android with the Android SDK and NDK, improving performance.
- Facilitated inter-process communication using JNI and COM, ensuring seamless integration.
- Implemented portions of CSS3 Multicolumn layout in Firefox, enhancing layout performance and readability.
- Optimized animated image rendering, improving browser efficiency and user experience.
- Enhanced text readability in Firefox, contributing to user engagement and satisfaction.
- Contributed to W3C specs such as CSSOM and WebGL, driving standards in web technologies.
- Maintained unit tests, ensuring stability and spec compliance within Mozilla's product offerings.
- Enhanced cross-platform performance by optimizing code efficiency, leading to improved user experience across Mozilla products.

Skills: C/C++, Java, Python, Rust, Javascript, HTML, CSS, W3C Specification Writing

Bloomington, MN

Sr. Software Engineer at General Dynamics AIS

Oct 2009 - May 2011

- Enhanced *Multi-Int Analysis and Archive System (MAAS)* features for intelligence community data analysis, boosting analyst efficiency.
- Developed Java code interfacing with Microsoft SQL Server, improving data processing speed.
- Collaborated on the MAAS software suite, including video editing with ffmpeg, to improve user satisfaction.
- Implemented web services using Hibernate and Spring, enhancing system reliability and performance.
- Led the enhancement of MAAS software, improving data processing efficiency for intelligence analysts.

Skills: Java, Hibernate, Spring, ffmpeg, Web Services, Microsoft SQL Server

Education

University of
Minnesota

Master of Science, Computer Science

2006-2009

From 2006-2009, was in a PhD program in Computer Science with research focuses in computational geometry and photorealistic rendering in computer graphics.

University of North
Dakota

Bachelor of Science in Computer Science

2001-2006

Completed a Bachelor's degree in Computer Science with focused study in software engineering and computer graphics. Graduated summa cum laude.

Bachelor of Science

2001-2006

Completed a separate Bachelor's degree in Mathematics with focused study in statistical theory, number theory, and combinatorics. Graduated summa cum laude.

Awards and Recognitions

Top Secret Clearance (Currently Inactive); *United States Department of Defense*, 2009-2011

Google Summer of Code Mentor; *Crystal Space 3D SDK*, Summer 2008, Summer 2009

Google Summer of Code Grant Recipient; *Crystal Space 3D SDK*, Summer 2007

Inducted Lifetime Member, *Phi Beta Kappa*, Honor Society in Liberal Scholarship, 2006

Inducted Lifetime Member, *Upsilon Pi Epsilon*, Computer Science Honor Society, 2004

Skills

Programming Languages

C/C++, Rust, Javascript (multiple variants, most notably ES6), TypeScript, Java, Groovy, Go, WebAssembly, HaXe, PHP, Ruby, x86 Assembly

Frameworks and Libraries

OpenGL, OpenGL Shading Language (GLSL), WebGL, Rails, Skia, Qt, Android SDK, Gecko Web Rendering Engine, Gradle, React, Storybook

Platforms

Unix, Linux (multiple variants), Mac OS/X, Windows

Cloud Services and Tools

AWS, GCP, Terraform

Developer Tools

VSCode, Mercurial, Git, CircleCI, Github, Github Actions, Linear, JIRA, Slack, Discord