Jerren Saunders

// Systems Software Developer
// Apex, NC

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/* Summary */

With over 15 years of experience in software development, I have a passion for analyzing customers' processes, identifying areas of improvement, and then breaking through paradigms to create a streamlined solution. I have expertise in MEAN (MongoDB, Express.js, Angular, Node.js) stack development, several scripting languages, and process automation. I enjoy collaborating with cross-site and cross-functional teams to synchronize efforts and benefit the company.

At BlackBerry QNX, I created a web application to centralize storage, management, and analysis for test results using the MEAN stack. I also managed the infrastructure of the software test lab, including servers, tools, and automated test frameworks. I initiated and facilitated monthly cross-site meetings for lab stakeholders, and I was the go-to contact for troubleshooting and resolving problems. I mentored, onboarded, and trained new hires of all experience levels, and I oversaw and inspected the local site to ensure compliance with annual external audits.

/* Experience */

// BlackBerry/QNX/Research In Motion, Cary, NC   February 2010 – March 2024

Senior Systems Software Developer | Full Stack

- Led the conception, design, development, deployment, and maintenance of the test result management web application (BlackFish).
  - Reduced management and triaging of over 1 million weekly test results from 2 days to less than 2 hours.
  - Utilized MongoDB, Node.js, Express.js, and Angular (MEAN) stack.
- Designed and prototyped the BlackBook web application (using MEAN stack) to streamline the management and sharing of hundreds of development boards.
  - Included features to efficiently allocate resources, balance manual and automated testing, and maximize development board utilization.
- Designed, assembled, and maintained lab infrastructure for automated testing.
  - Designated to take on the position of Site Lab Manager, starting May 2024.
  - Played a pivotal role in preparing for annual external security audits.
- Developed JavaScript, Python, and Shell scripts to automate tasks for teams throughout the business unit.
- Launched monthly cross-site meetings for lab stakeholders to promote knowledge-sharing and teamwork.
- Mentored senior design teams in NC State's Computer Science department.
- Trained new employees including co-ops, new grads, and senior level.
- Selected to remain in an elite team during a site-wide layoff (2014).

Software Configuration Management (SCM) Specialist

- Managed Perforce project branches and conducted smoke-tests.
- Identified optimizations for config specs to reduce workspace size by 75%.
- Created server/client C# .NET applications to enable rapid development of plugins to provide features needed for testing and automating tasks.

// Ericsson Mobile Platforms, Morrisville, NC   September 2005 – November 2009

Software Engineer II

- Designed and developed multiple internal applications and scripts, automating testing and routine tasks to improve operating efficiency.
  - Automated a frequent 12 hour process into a 2–4 hour procedure.
- Managed dozens of servers dedicated to building code and executing tests.

Software Configuration Management (SCM) Specialist

- Managed the delivery of new features and bug fixes, ensuring seamless integration from development to customer release.

Other Accomplishments

- Titled "Site Tools Champion" due to troubleshooting and serving as key point of contact for tools support to minimize issues and reduce down time.

/* Skills */

// Programming Languages

JavaScript	●●●●
TypeScript	●●● ○
Java	●●● ○
C#	●●● ○
Python/MicroPython	●●● ○
Perl	●●● ○
Batch	●●● ○
Bash	●●● ○
C/C++	● ○○○○

// Database Technologies

MongoDB	●●●●
SQL	●● ○○○

// Web Development

Node.js	●●●●
Express.js	●●●●
RESTful APIs	●●●●
Angular (v8-v15)	●●● ○

// Version Control

Git	●●●●
Perforce	●●● ○

// Cloud

Mongo Atlas	●● ○○○
AWS	● ○○○○

// Miscellaneous

VS Code, HTML, CSS, XML, NGINX, regex, JIRA, SNMP, Windows, Linux, HyperV, MS Office, WSL

/* Education */

Computer Engineering, BS
NC State University

Electrical Engineering, BS
NC State University

/* Key Projects */

// BlackFish – Test Result Management Web Application   2017 – 2024
BlackBerry/QNX/Research In Motion
- Led the conception, design, development, deployment, and maintenance phases of this internal tool to manage test results from diverse frameworks and teams across the organization.
  - Empowered stakeholders to store and analyze over 48.5 million tests during 2023.
  - Streamlined management and triaging of over 1 million weekly test results from 2 days to less than 2 hours.
- Managed all aspects of the infrastructure including:

MongoDB Replica Set Configuration	Production, Stage, and Test Servers (OS & Hardware)
Node.js Service hosting JavaScript REST API	NGINX Service hosting front end
GitLab Projects & Branches	ES Lint (static code analysis)
Agile Software Development Lifecycle using JIRA	

- Implemented features to monitor performance metrics for identifying issues, bottlenecks, and areas needing optimization, focusing efforts on increasing system efficiency, responsiveness, and scalability.
- Collaborated with 8 teams across the organization to comprehend their distinct testing methodologies.
  - Designed an adaptable schema to accommodate various test frameworks and ensure future scalability.
  - Developed parsing scripts in JavaScript and Python tailored to each team's specific procedures.
- Developed an extensive suite of unit, integration, API, and E2E test cases for the backend system using the Mocha + Chai frameworks, ensuring thorough coverage and resilience of the delivered RESTful interface.

// BlackBook – Hardware Reservation System Web Application   2023 - 2024
BlackBerry/QNX/Research In Motion
- Designed and prototyped a web application to manage the sharing and utilization of hundreds of development boards among the test team and software developers.
  - Optimized resource allocation and enabled a balance of manual and automated testing.
  - Compiled feature requirements based on feedback and lessons learned from legacy methods.
  - Designed using MongoDB, Node.js, Express.js, and Angular (MEAN) stack.
- Collaborated with a team of seniors at NC State University to develop and implement an early prototype.

// ResumeTracker – Mongo Atlas   March 23, 2024 - Current
Self
- Designed and created a Mongo Atlas App Service which is the target for https://jerren.info/<Company> short links provided in my resume to tally visits and then redirect viewers to a custom landing page.
- Developed to expand my experience with Mongo Atlas, build sample code for my online portfolio, and also gauge interest in my resume.
- Source code and documentation may be viewed at https://github.com/jerrens/ResumeTracker.

// Interactive Game System   Current
Side Venture
- Designing and developing a Node.js service to monitor a control board via serial port, decoding proprietary binary messages, storing into a MongoDB, and providing real-time notifications to web clients.
- Leading the design and optimization efforts of the MongoDB database, including defining collections, document schema, and indexing strategies to store captured data, user information, and other system components.
- Assuming sole responsibility for the development and rigorous testing of RESTful interface.
- Providing consultation in the development of both the control board firmware and the Angular front-end dashboard.

// Remote Bug and Log Reporting Tool   2016 – 2017
BlackBerry/QNX/Research In Motion
- Contributed as a member of a team tasked with uploading logs and core dumps files from devices undergoing development and field testing.
- Proposed and implemented a system architecture, leveraging AWS services including S3, Lambda, SQS, and SNS.
- Configured AWS services to index uploaded items, queued them for processing, and sent notifications upon availability for analysis.
- Developed a C# application that connected to AWS services to retrieve object summaries, facilitating the review, management, and triaging of reported issues.
- Implemented a caching mechanism to store retrieved objects locally on the intranet, enhancing performance and minimizing costs associated with AWS data transfer and requests.

Continued…

/* Key Projects (Continued) */

// Data Terminal Server
2010 – 2015

BlackBerry/QNX/Research In Motion
- Designed and implemented a generic C# .NET console application as a reusable component for rapidly creating server-client processes, allowing new functionality to be quickly created as plugins to the framework.
- Developed a suite of plugins to manage test requests, perform remote builds, and execute automated tasks.

// Surge – Current Measurement Scope Application
2007 – 2009

Ericsson Mobile Platforms
- Coauthored a C# application to control, capture, and plot ADC measurements from 16 channels in real-time.
- Authored bootloaders in C for two Atmel processors, enabling firmware updates by end-users.
- Developed scripts to automate the flashing and verification testing of firmware and hardware calibration in the factory, resulting in significant cost savings.

/* Awards */

// Extra Mile Award
- For assisting other employees and groups beyond the scope of normal job responsibility
- Three-time recipient
- Nominated by peers

// Management Award
- Recognition for extra work to establish a collaboration tool for the local site

// STAR Award
- Recognition for dependability
- Three-time recipient
  - Silver & Gold levels
- Nominated by peers and Senior Director of Test and Development