

# ROGER SPRAGUE

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Roger Sprague

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## SKILLS

Software Development, Project Management, Technical Leadership

NextJS, React, Redux, NodeJS, GraphQL, AWS EC2, AWS S3, AWS Backup, AWS API Gateway, AWS App Sync, AWS Lambda, AWS SES, C#, REST, Git, GitHub, PostgreSQL, MariaDB, PlanetScale, MS SQL Server, Jest, Playwright, Kafka, Kubernetes, KSQL, Docker

## EXPERIENCE

January 2024 - Current  
TN

BlackpointCyber

Johnson City,

### Lead Full Stack Developer

- Lead the product research, design and development of CMMC and HIPAA dashboards solution including frontend and backend design, development, ingestion aggregation, and caching.
- Used Nest.Js, Aurora Postgres, Nest.js, Kubernetes and KSQL to deliver high scale solution processing over 8 billion events per day with peak throughput of over 100,00 events per second.
- Lead reviews and delegated tasks to junior developers as needed to keep the project on schedule.
- Developed a data driven schema for defining dashboards using JSON to support future state features like custom dashboards and user specific dashboards.

November 2022 - November 2023  
TN

Neem

Johnson City,

### Principle Full Stack Developer

- Currently leading development of a greenfield web application for dental practice management designed for manage patients, scheduling, insurance, claims and billing. The application. Built using NextJS, Tailwind, React Query, AWS ECS, SES, Auth0, Aurora Postgres.
- Leading development of a greenfield web application for Parthenon Management Group handling society membership and event attendance and scheduling integration. Built using NextJS/NodeJS, TailwindUI, Prisma and Supabase.

Aug 2022 - November 2022  
TN

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Johnson City,

### Principle Lead Consultant

- Leading development of a greenfield web application for HCA Healthcare designed for tracking and resolving unprocessed patient claim data. The application allows physician advisors to overturn payor denials while also providing trend analysis and the generation of ML training data. Built using NextJS/NodeJS, Prisma, Azure AD, SQL Azure and Logic Apps.
- Leading development of a greenfield web application for Parthenon Management Group handling society membership and event attendance and scheduling integration. Built using NextJS/NodeJS, TailwindUI, Prisma and Supabase.

Feb 2022 - August 2022  
TN

QuickDispa

Johnson City,

### Freelance Full Stack Developer

- Developed a greenfield internal web application for dispatching and tracking service calls using NextJS/NodeJS, TailwindUI, Prisma and PlanetScale.

2020 - 2022

Seeq Corp

Broomfield, CO

### Freelance Full Stack Developer

- Migrated existing infrastructure to AWS using EC2, S3, Backup, Route 53, Global Accelerator, Cloud Watch, SES and IAM.
- Created custom deployment scripts to make sure all EC2 instances were configured consistently with Apache and MariaDB security recommendations..
- Lead the design and development of web site/service optimizations to reduce latency and increase throughput to improve Google SERP ranking.
- Developed public facing sites using a combination of Bootstrap,, Javascript, Node, and MariaDB. Most notably Seeq.com
- Developed internal sites using a combination of Bootstrap, React, Javascript, Node, Express and MariaDB.
- Upgraded apache instances to use event MPM to decrease TTFB and improve page load speed by using HTTP/2
- Created optimized versions of Bootstrap to reduce page load time.
- Optimized client-side JavaScript to decrease page load time and LCP by eliminating duplication and restructuring DOM queries.
- Restructured CSS to better handle mobile layout and font loading to decrease page load and CLS times.
- Developed multiple front-end components including responsive video facade, responsive menu system and floating navigation elements for desktop and mobile.

2018 - 2019

Owner/Operator

Lancaster, PA

### Freelance Development Agency

- Lead the design and development of the web development for multiple small and medium sized business clients using HTML5, CSS3, Bootstrap and jQuery.

- Took domains from a page ranking of 53 in Google to the top ranking in the Google map pack and the third ranking in organic search results within one year within highly competitive markets.
- Developed SEO optimizations to restore google page ranks across multiple highly competitive key word searches in the appliance repair and recording studio business markets.

2017 - 2018

Microsoft Corporation

Redmond, WA

#### **Senior Software Design Engineer – Excel for iOS and MacOS**

- Lead the design and development of the VoiceOver Rotor accessibility experience for iOS and macOS in the Excel product family for the 2019 release.
- Created abstractions for working with similar VO functionality in AppKit and UIKit.
- Assisted in developing host for .NET Core platform integration for Excel automation.
- Built ML based system for cataloging feedback requests in a MS SQL database by having the support team attribute each feedback request to help refine the model.
- Created shared functionality to align the search experience on iOS/Mac with the search experience on Windows.
- Worked with large customers to better understand the root cause of pain points when working with large Excel files on iOS/macOS.
- Managed the functional test process and assigned tasks/bugs as needed to keep the product stable and ready to ship.
- Overhauled the layout logic to eliminate erratic behavior when resizing search/navigation fields on iOS/macOS.

2014 - 2017

Microsoft Corporation

Redmond, WA

#### **Senior Technical Lead – Azure / Azure Stack**

- Lead the design, development and documentation of the resource provider SDK for services which integrate into the Azure / Azure Stack management control plane.
- Managed the SCRUM and monthly release process for RP SDK.
- Provided guidance and design reviews for internal and external ISV's who are building resource providers for Azure / Azure Stack.
- Designed and develop NoSQL persistence layer that allows for world scale and continuous service availability while accommodating storage entity format changes.
- Drove the patent process to make sure the unique characteristics of the Azure RP SDK are protected.

2013 - 2014

Microsoft Corporation

Redmond, WA

#### **Senior Software Design Engineer – Virtual Machine Manager**

- Lead the team in designing and developing a new API and workload management system for the next generation CSM v2 private cloud fabric management solution using a data driven architecture and a guaranteed message delivery system over WebSockets.

- Assisted the team in architecture design changes to facilitate high availability and scale-out of fabric workloads.
- Shipped the VMM 2013 release including changes to enable disaster recovery.

2012                              Qualys Corporation                              Bellevue, WA

**Senior Software Design Engineer – Qualys Guard**

- Independently designed and developed a Windows platform agent for scanning and delta processing the system state to provide an alternative to dedicated security and compliance scanning devices.
- Developed method to keep agent working-set under ~ 3MB and keep total disk utilization under 100MB even for the largest and most complex systems scanned.
- Drove the patent development and review process to make sure the unique characteristics of the system were protected.

2001 - 2011                              Microsoft Corporation                              Redmond, WA

**Senior Software Design Engineer – Operations Manager**

- Developed high availability and load balancing system for Operations Manager, Service Manager and Azure cloud based monitoring.
- Developed a client API using C# to provide programatic access to .NET clients.
- Developed distributed workflow orchestration control system for Operations Manager, VMM and Service Manager.
- Developed WF and PowerShell hosting for Forefront and Service manager.
- Worked with CSS to reduce supportability costs for OpsMgr.
- Owned engineering improvements to reduce engineering costs and improve product quality.
- Developed a REST API service and PowerShell plugin for OpsMgr 2007 using MSSQL and C#/.NET.
- Developed Web Site and Web Service monitoring engine for Operations Manager 2005 – WSS MP. Also used by Xbox Online.
- Developed reusable components for a common UX framework including OpsMgr navigation, asynchronous data acquisition, selection persistence, user personalization, delay loading and virtual d

1999–2001                              Microsoft Corporation                              Redmond, WA

**Software Design Engineer – Application Center**

- Designed, developed, filed patents and received patents for:
  - System and method providing a single application image.
  - Distributed performance logging.
  - UI to display and manage a cluster.
  - System and method providing fault tolerant distributed queries.
- Designed and developed Web console UI and infrastructure.

- Designed, developed and filed patent application for a schema based list control that displays distributed paged queries.
- Designed and developed a chart control for aggregated real-time performance data.

## **EDUCATION**

**1994–1999      Pennsylvania State University Harrisburg, PA**

## **PATENTS**

- 20170168813 - Resource Provider SDK - A composable library that employs inversion of control (IoC) to allow developers to rapidly build REST services where resource lifecycle, migration and authorization are handled automatically.
- 20050235273 - System and method providing single application image.
- 20050210057 - Method and apparatus for providing data from a data source to a data consumer, and for rendering data from a data provider to an interface. i.e UX design and architecture for dynamic schema in a distributed query architecture.
- 20050081157, 20050081156 - User interface to display and manage an entity and associated resources. i.e Cluster oriented UX design and architecture.
- 20050027727, 20050021748, 20050021306, 20050021546 - Distributed data gathering and aggregation agent. i.e. Cluster based distributed query architecture.

## **REFERENCES**

Upon request.