James Carnley

DevOps and Full-Stack Engineer

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Professional Summary

DevOps and Full-Stack Engineer with M.S. in Computer Science and 10+ years of experience in distributed systems, Site Reliability Engineering (SRE), and software architecture. Unique background combining a decade of enterprise software modernization at Epic Systems with deep infrastructure work in the Ethereum ecosystem. Expertise ranges from architecting automated testing frameworks and managing P2P gossip protocols to deploying serverless architectures and ensuring high-availability distributed systems.

Skills

DevOps & Infrastructure

Distributed Systems, System Administration, SRE, Incident Response, Root Cause Analysis (RCA), Chaos Engineering, Prometheus/Grafana, Azure, P2P Gossip Protocols

Tools

Docker, JSON-RPC, GraphQL, Selenium, Hardhat, Foundry, Viem/Ethers.js, Visual Studio / Code, NodeJS, Git, Tailwind, IPFS

Languages

JavaScript, TypeScript, Solidity, C#, GraphQL, ASP.Net, jQuery, HTML, CSS, C, C++, Java, Python, SQL

Domain Knowledge

Web3, Ethereum, computer networks, decentralized systems, communication protocols, fuzzing, deterministic state testing, single sign on, two factor authentication, web development, mobile development

Experience

Independent Ethereum Engineer - *DevOps, SRE, Leader*

SEPTEMBER 2020 - PRESENT

- Managed multi-client architecture for high-availability distributed networks, actively participating in the Beacon Chain launch and ensuring 99.9% uptime for validator nodes.
- Monitored consensus layer performance of Prysm, Lighthouse, Teku, Nimbus, and Lodestar using Prometheus and Grafana to analyze missed attestations, debug proposal failures, and optimize peer connectivity.

- Practiced Chaos Engineering and deterministic state testing to harden network resilience against failure scenarios.
- Operated Secret Shared Validator (SSV) nodes, contributing to validator decentralization and resilience.
- Contributed IT expertise to client teams, providing feedback to ensure network stability during critical transitions.
- Regularly attended core conferences (e.g. Devcon / Devconnect) to synchronize with client teams on protocol updates, EIP implementations, and roadmap planning.
- Lead aspects of ETHStaker, ETHChicago, and Madison Blockchain communities.

Ethereum File System (EFS) - *Creator*

JUNE 2024 - PRESENT

- Passion open source project. Deep system architecture design work, solidity, and modular web development.
- Architected a topic-based data organization protocol to enable deterministic, efficient access to on-chain user information.
- Designed optimized data structures to solve complex collaboration and discoverability challenges, minimizing gas costs for on-chain usage.
- Engineered the web application using Web Components, Lit, and Web Awesome, integrating the Ethereum Attestation Service (EAS), IPFS, and ENS for a fully decentralized stack.

Epic Systems Corporation - *Software Engineer*

JUNE 2010 - FEBRUARY 2021

- Developed software for the EpicCare Link team, creating a web interface that allowed outside physicians access to patient information.
- Served as Site Reliability Engineer (SRE) for the team, handling Incident Response, Root Cause Analysis (RCA), and Performance Monitoring.
- Architected automated end-to-end testing frameworks using Selenium to validate complex workflows and ensure deterministic behavior.
- Designed a federated user interoperability system and trust network maintained via a bespoke gossip protocol, allowing seamless SSO and notification support across organizations.
- Modernized the web platform from HTML 2 to valid HTML 4, CSS 3, and JavaScript, enabling full support for Google Chrome and mobile browsers.
- Refactored and simplified CSS structures to increase developer productivity and enable customers to easily create custom themes, while integrating jQuery and jQuery UI widgets into the application's base structure.
- Managed a team that created a new graphing and charting library based on D3.js.
- Developed prototypes using a serverless architecture on Microsoft Azure.
- Coordinated with healthcare providers and administrators to design a system for secure electronic consults containing media, building the media upload control using jQuery, ASP, and VB6.
- Developed video collaboration tools for medical video visits on the web, integrating with Adobe and Vidyo products.

- Engineered a solution for Single Sign-On (SSO) from Epic to third-party systems in web applications.
- Managed standardized integration with PACS and BLOB servers and created custom integrations for third-party vendors when necessary.
- Enabled support for using web products across multiple time zones.
- Maintained currency with the latest web products and technologies, performing developer education on new techniques.

Dr. Bo Sun - *Research Assistant*

FEBRUARY 2009 - MAY 2010

- Designed and implemented an opportunistic routing protocol for use on wireless sensor networks named TORP: TinyOS Opportunistic Routing Protocol.
- Used C and nesC to implement my protocol on the TinyOS wireless sensor network operating system.

Mary and John Gray Library - *Systems Programmer and Administrator*

MARCH 2006 - JANUARY 2009

- Created ASP.Net forms that allow librarians to input a dynamic amount of books into the system and catalog them using information fetched from external sources via AJAX.
- Developed an array of Perl and shell scripts to manage data from internal library systems and SirsiDynix.
- Built and configured secure images for large campus lab of workstations using Microsoft SteadyState and custom scripts including advanced privilege and user management.

Education

Lamar University - *MS in Computer Science*

AUGUST 2008 - MAY 2010

Lamar University - *BS in Computer Science*

AUGUST 2004 - MAY 2008

President of Upsilon Pi Epsilon from 2007-2008

President of Association for Computing Machinery from 2005-2007

Competed in UIL (State level), TCEA, and ACM programming competitions