Aaron D Borden

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Empathetic technical strategist who designs and analyzes distributed systems and algorithms seeking unfamiliar and complex projects, unique challenges, cross-discipline collaboration, and the opportunity to make an impact at scale.

Core competencies

- 16y building, testing, and deploying web apps
- 14y leading projects and mentoring teammates
- 12y launching cloud native apps
- 10y programming Node.js and Python
- 10y human-centered design and agile methods
- 10y DevSecOps practitioner building CI/CD
- 10y working with hybrid and remote teams
- 18y administering Linux systems

Experience

Sr Staff Software Engineer, Software Infrastructure Architect
Rivian Automotive Inc, Palo Alto, CA (Dec 2021–present)

Electric vehicle manufacturer and automotive technology company founded in 2009. Rivian builds custom firmware and cloud connected software for its EV line including the R1T, R1S, and EDV.

- Design and implement multi-cluster Kubernetes for build and release infrastructure supporting over 600 cloud and embedded developers, 500 nodes, over 100k daily GitLab CI jobs, and over 45 runners
- Drive PoC to migration of firmware monorepo to Bazel, including remote execution and caching with Buildbarn, auto-generated BUILD files, and byte-for-byte parity with existing build system
- Design and implement sustainable SLAs and SLOs for CI team using weekly SRE Production Meetings to communicate to stakeholders and investigate improvements for quality of service
- Lead migration of firmware monorepo from Bitbucket to GitLab self-managed, including CI pipeline with over 30 ECUs and hundreds of hardware variants
- Implement Crossplane compositions and Helm charts to integrate our apps with AWS infrastructure for platform-wide deployment including automated unit and integration tests using Chainsaw
- Implement company-wide infrastructure templates and standards including publishing, doc generation, linting, unit, and integration tests for Python, Kubernetes, Helm, and Crossplane projects

IT Specialist (INFOSEC) GS15, Lead/Principal Software Engineer, Data.gov, TTS
General Services Administration, San Francisco, CA (Mar 2019–Dec 2021)

Data.gov is the federal open data catalog that provides public access to over 300,000 machine-readable datasets generated by the federal government.

- Led 3 teams, totaling 12 people across US and Europe to migrate 6 Data.gov open source applications from on-premise infrastructure to Cloud Foundry cloud native platform-as-a-service
- Established code standards and Definition of Done, including best practices for design, implementation, and testing and implemented automated checks for linting and code coverage gates
- Implemented single-tenant Kubernetes for Apache Solr-as-a-service deployment implementing the Open Service Broker API

- Introduced Test-Driven Development and implemented unit, integration, and smoke test suites for Python applications, libraries, and Ansible roles, leveraging pytest, Jest, Cypress, Molecule, and Docker

IT Specialist (INFOSEC) GS15, Infrastructure Lead, Technology Portfolio, TTS — 3-month detail assignment
General Services Administration, San Francisco, CA (Jun 2021–Oct 2021)

Technology Transformation Services (TTS) applies modern methodologies and technologies to improve the public's experience with government services that are more accessible, efficient, and effective.

- Implemented continuous integration and delivery (CI/CD) for Terraform repositories managing 15 AWS accounts and 6 GitHub organizations for implementing security compliance baseline
- Identified and began implementation on projects to build or improve shared platform services to reduce security compliance burden across 12 TTS teams
- Proposed portfolio reorganization into 3 new teams, applying Team Topologies to optimize for fast flow, eliminate effort wasted on unnecessary business functions, and made a case for an expanded team size
- Automated agile workflows using GitHub Actions across 6 organizations saving 1 hour per week spent on manual recurring tasks

Innovation Specialist GS15, Technology Strategist, 18F, TTS
General Services Administration, San Francisco, CA (Jan 2016–Mar 2019)

Digital services agency that collaborates with other federal, state, and local agencies to improve the user experience of government services by helping them build and purchase technology.

- Implemented immutable deployment of AWS applications using Packer, Ansible, and Terraform for zero-downtime blue-green deployment
- Negotiated complex security requirements with Intelligence Community agencies to draft a FOIA API spec that meets federal statutes without requiring significant build effort from implementers
- Standardized development environment and CI/CD for several Cloud Foundry web applications with Docker Compose
- Led technical strategy for several discovery projects including design, prototyping, implementation, and hand-off of MVP web applications in Node.js and Python

Previous employment experience

See my [LinkedIn profile](#) for full employment history and related non-professional experience.

- Senior Software Engineer, Contractor, OpenTable, San Francisco, CA (Aug 2015–Jan 2016)
- Senior Software Engineer, Good Eggs, San Francisco, CA (Dec 2012–Jul 2015)
- Full Stack Engineer, Formspring, San Francisco, CA (Sep 2011–Dec 2012)
- Software Developer Engineer in Test, Microsoft, Mountain View, CA (Sep 2008–May 2011)

Education

Bachelor of Arts in Mathematics and Computer Science (May 2008)
Rutgers University, New Jersey