

Sam Graham

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PROFESSIONAL EXPERIENCE

Aria, CO-CREATOR, SOFTWARE ENGINEER [🔗](#)

2021

Created Aria, a self-hosted tool which automates deployment of infrastructure and observability tooling enabling automated canary analysis within AWS production environments

- Designed, prototyped, and built Aria using Amazon Web Services (CFN, EC2, ELB, S3, IAM)
- Wrote Node.js based API enabling deployment of CloudFormation stacks to existing VPCs
- Engineered custom deployment pipeline using Docker, CDK core, & SDK libraries
- Created Svelte SPA enabling deployments lifecycle management and observability
- Researched and prototyped Aria monitoring and analysis tooling: Prometheus and Kayenta
- Co-authored technical case study and technical presentation (aria-deploy.github.io)

General Motors Inc. [🔗](#)

SENIOR SYSTEMS ENGINEER

2017 – 2021

- Tech Lead of 5+ safety engineer team, responsible for all product-line steering systems
- Created Flask based application to manage 70 person org workflow and work products
- Defined AV, Steer-by-Wire, & Fail Operational steering safety strategies

STEERING SYSTEMS ENGINEER

2014 – 2017

- Authored Hazard Analysis, Safety Concept, FTA, & STPA work products
- Ensured dFMEA alignment with Safety processes
- Defined safety requirements for AV and automated features

Westinghouse Electric Company, CONTROLS SOFTWARE ENGINEER [🔗](#)

2008 – 2013

- Designed control logic for nuclear power systems
- Coordinated design processes with Hw, Sw, and HMI groups
- Authored control algorithms (ANSI C) for fluid system processes

PATENTS

"Multi-stage voting control", US Patent No. 123,456,789 - Date of Patent: Dec 8, 2018

EDUCATION

M.S. Embedded Systems, Oakland University [🔗](#)

2014

B.S. Electrical Engineering, Michigan Technological University [🔗](#)

2007

SKILLS

Languages (TypeScript | JavaScript, Go, Python, SQL, Ansi C, Assembly)

Frameworks (Node.js, Flask, React, Svelte)

Tooling (Docker, Postman, Git, Prometheus, Grafana)

Database Management (Postgres, SQLServer, SQLite, Monogodb, SQLAlchemy, Redis)