

# Sam Graham

✉ segrah@gmail.com     SamGrah     samgraham.dev

## PROFESSIONAL EXPERIENCE

---

### 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

### Aria, CO-CREATOR, SOFTWARE ENGINEER

2021

- Created Aria, a self-hosted, "quick-start" framework which automates and manages canary deployments infrastructure utilizing production traffic within existing AWS environments
- Designed, prototyped, and built Aria using Amazon Web Services (CFN, EC2, ELB, S3, IAM)
  - Wrote Node.js based API enabling deployment of CFN infrastructure stacks to existing VPCs
  - Engineered custom deployment pipeline using Docker, CDK core, & SDK libraries
  - Created Svelte based SPA enabling deployments lifecycle management and observeability
  - 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., 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,

2008 – 2013

#### CONTROLS SOFTWARE ENGINEER

- 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)