Jacob Sansbury

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EXPERIENCE

- **Saleae Inc.** — San Francisco, CA
  Full Stack Software Engineer — *November 2019 - Current*
  - Reduced single frame render time by 50% for a 400 Ms/s mixed-signal oscilloscope rendering pipeline written in C++ and Typescript
  - Invented a Typescript library to upgrade and downgrade more than 100 typescript types across software versions

- **Bridgewater Associates** — Westport, CT
  Application Security Engineer — *June 2018 - November 2019*
  - **Insider Threat Investigation Toolset**: Engineered investigation tools to mitigate insider threat attack vectors
    * Engineered a set of 3 investigation tools to mitigate insider threat attack vectors each included tie-ins to AWS infrastructure and a React/Typescript frontend
    * Engineered multithreaded front end data processing pipelines for rendering graph data on an HTML5 Canvas with more than ten thousand nodes and twenty thousand edges
    * Decreased staff training time by three days through wrapping complicated but powerful graph analysis tools into a user-friendly React user interface
  - **Proxy Policy Configuration Engine**: Built tracking and auditing software for proxy policy exceptions
    * Mitigated risk for over 1,000 policy exception by integrating Bridgewater's proxy configuration engine with RSA Archer
    * Built a proxy configuration engine that tracks over one thousand active policy exceptions in React and Golang
  - **Security Infrastructure**:
    * Migrated a Docker build pipeline to Bazel for 80% smaller builds and reduced attack surface
    * Improved critical infrastructure visibility by 90% though new tooling for packet capture
    * Grew AWS Terraform adoption by 5x through education sessions and team demos
    * Embedded static code analysis in over 100 CI/CD pipelines with SonarCloud
    * Implemented Terraform-backed multi-availability-zone AWS infrastructure with RDS and Fargate to store and process terabytes of graph data

- **Mad Mobile** — Tampa, FL
  Front End Software Engineer — *October 2017 - June 2018*
  - Reduced defect remediation time across more than 10,000 clients by implmenting Sentry.io in React and C++ codebases
  - Decreased downtime by 50% by migrating monolithic Node.js on-premise infrastructure to AWS lambda micro-services
  - Engineered a GDPR compliant analytics system with an average throughput of 100,000 events per second on AWS Fargate
  - Lead adoption of TDD across a team of ten engineers

- **SentinelSix** — Columbia, SC
  Full Stack Engineer — *June 2017 - October 2017*
- **TCube Solutions** — Columbia, SC
  Software Application Developer — *April 2016 - June 2017*

PROJECTS

- **Typescript Migration**: Invented a library to manage versions of TypeScript types
- **Switch CMS**: Cabin management systems for planes are expensive and a decade behind current technology. Switch is an alternative solution with modern technology
  - Integrated a React Native mobile app with Global Cache devices to control up to twenty devices over serial and IR
  - Created a plug and play device controller capable of reverse engineering aircraft CAN bus infrastructure to discover and expose device control through a subnet facing service in C++ and Go

- **SkyFlix**: Developed in-flight entertainment software for business jets including some of Boeing's top government customers with React Native and C++

PROGRAMMING SKILLS

- **Languages**: JavaScript, Python, Rust, Go, Swift, SQL, Terraform   **Cloud Providers**: AWS, Azure, Heroku, Firebase
- **Databases**: MongoDB, Amazon Aurora, Postgres, Neo4j   **Technologies**: GraphQL, REST
- **Frameworks**: React, Expo, Express.js, Flask, Electron, ARKit
- **Paradigms**: TDD, Functional, OOP, Microservices, Infrastructure as Code, Cloud Native
- **Software**: Jira, Splunk, Qualys, RSA Archer, Active Directory, Gerrit, GitLab, Rundeck, PagerDuty