Sean Rich

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SKILLS

Languages : Python, JavaScript/TypeScript, HTML/CSS, SQL (PostgreSQL), C++, Swift

Frameworks/Tools : Django, React.js, AWS, Docker, docker-compose, Git, Terraform, Apache Airflow, gRPC, GitLab CI/CD, Github Actions, Elasticsearch, Logstash, Kibana, Vue.js, GraphQL, Google Cloud

Operating Systems : Linux (Debain-based, Red-Hat Based, Arch), MacOS

Passions : Health and Fitness, System Customization, Databases, Podcasts, Strategy and Product Growth

EXPERIENCE

Opener

July 2020 – Present

Software Engineer

San Francisco, CA

- Designed and implemented external-facing aircraft software for over-the-air software updates, aircraft flight data uploading, and general aircraft status telemetry. Services were built with Python, SQL Alchemy, Amazon SQS, AWS Fargate, mTLS, protobuf, and gRPC.
- Designed and built flight data processing pipeline for **5+ TB** of internal flight data (intended to scale beyond **100+ TB** of external customer data). Built with AWS Athena, Apache Airflow, Python microservices with gRPC and protobuf.
- Architected aircraft sales application for the opener.aero website with over **5k** monthly visits. Developed with Django, Celery, Redis, PostgreSQL, React with TypeScript, Terraform, AWS Fargate, AWS Cloudwatch notifications, autoscaling on AWS ALB, RDS, ElastiCache.
- Overhauled existing internal observability infrastructure using Elasticsearch, Logstash, Kibana, and Filebeat as a logging/monitoring stack.
- Maintained the internal knowledge web application used by all Opener employees for aircraft design, part tracking, flight data parsing, and data visualizations. Implemented with Python, Django, Celery, React, PostgreSQL, Redis.
- Rethought Opener's GitLab CI workflow and implemented pipelines using multi-project common templates, static analysis, security screenings, and breaking change detection utilities.
- Developed accounting integration between Expensify and our ERP system with a Django web application for easy internal usage. Provided request/network failure robustness, integration atomicity, and discovered **20+** integration API endpoints by tracing and analyzing manual workflows.
- Mentored **two** junior engineers in weekly pair programming to teach code navigation, code quality, and best practices.

Sikorsky Aircraft Corporation

June 2018 - August 2018, June 2019 - August 2019

Software Engineering Intern - Flight Controls and Autonomy

Stratford, CT

- Designed, architected, and deployed an automatic aircraft-tracking camera system using Node.js and Vue.js.
- Developed the organization's first CI/CD pipelines for unit and end-to-end testing for flight critical software.
- Led the shift to automatic Docker deployments of internal web tooling.

EDUCATION

The Pennsylvania State University, Schreyer Honors College

Aug. 2016 – May 2020

Bachelor of Science in Aerospace Engineering

State College, PA

- **GPA**: 3.99
- **Thesis**: Implemented parallel orbital maneuver algorithms with up to **95%** speedup for real-time optimization.

Projects, Achievements, and Activities

- Built a Point of Sale web application tracking over **$150,000** of merchandise sales as a leading volunteer for THON, a 46 hour dance marathon raising over **$10 million** annually.
- Software/Electrical team lead for the National Collegiate Wind Competition, placing **1st** (2019) and **2nd** (2018).
- Planned, organized, and ran a camp of **100+** campers, **65+** counselors, and a **$100,000+** budget for children whose parents had cancer as a student volunteer for Camp Kesem.