ROB STEILBERG

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EDUCATION

Duke University, B.S. Computer Science   2014 – 2018

EXPERIENCE

Jeppesen ForeFlight   **Senior Software Engineer**, 2022 – present
Austin, TX

- Built the backend for JeppLink, a new iOS application that updates Jeppesen navigational databases on Garmin GPS avionics
- Represented ForeFlight at EAA AirVenture Oshkosh, SUN 'n FUN, and various aircraft owner conventions, providing in-person support, product expertise, and sales guidance
- Designed and built the backend for Reported Turbulence, a real-time pipeline of turbulence data powered by ForeFlight's Sentry ADS-B receivers; see the AOPA article about the feature
  - Leveraged Amazon CDK, SQS, SNS, CloudFormation, CloudFront, and tippecanoe to assemble a vector tileset that is continually updated and rendered on the ForeFlight Mobile map
- Later extended this pipeline to cache live airport weather camera images from the FAA and NavCanada, supporting the release of the Weather Cameras feature in ForeFlight Mobile; see the Sporty's article about the feature
- Shipped the backend for Insights, a major rework of ForeFlight's Airport and Business Comments feature
  - Designed the REST API and implemented a PostgreSQL migration that preserved backwards compatibility for legacy ForeFlight Mobile builds; fixed bugs in the iOS codebase

Server Developer, 2021 – 2022

- Shipped a complete frontend redesign (Laravel to React) and backend rewrite (PHP to Spring) of ForeFlight's retail and contract aviation fuel pricing features with minimal user disruption
- Triaged complex, user-specific issues related to contract fuel pricing, typically deploying fixes within a day
- Mentored an intern who was later hired as a full-time employee

Self-Employed   **Certified Flight Instructor**, 2024 – present
Austin, TX

- Providing primary, instrument, commercial, and recurrent flight instruction in Beechcraft and Piper aircraft

Austin Air Cruisers   **Pilot**, 2025 – present
Austin, TX

- Flying a 1947 Piper PA-12 Super Cruiser on air tours over Austin

Esri   **Software Engineer**, 2018 – 2021
Washington, DC

- Worked across the entire stack with the Esri R&D Center, contributing to UI/UX planning and feedback, frontend work with Ember.js, and backend work with Express.js, Elasticsearch, and PostgreSQL
- Rebuilt ArcGIS Hub's obsolete domain resolution service as a scalable microservice with Express.js, which allowed us to wind down a legacy Ruby on Rails app that reduced annual server costs by approximately $100k, all with zero downtime
- Contributed to Esri's open source, cross-team TypeScript libraries, plus several popular Ember.js libraries
- Represented the team at the Esri User Conference and the Esri Developer Summit

Intern, summer 2017

- Prototyped an Ember.js app that templatizes ArcGIS Online mapping applications, making them compatible with any Esri-hosted dataset and improving app buildout time by over 85%

Clinica Esperanza   **Volunteer Engineering Lead**, 2018 – 2023

Roatán, Honduras | Spanish language proficiency

- Directed UI/UX design, system architecture, and product development for mVax, an Android app used to record immunizations and generate standardized vaccination reports; led a team of six
- Completed onsite deployment in July 2018, increasing the clinic's overall vaccination throughput
- Provided onsite IT support to clinic employees along with website maintenance, strategy, and SEO optimization for nonprofit fundraising

TECHNICAL SKILLS

Current: Java (Spring), JavaScript, Node.js (React, Express, Ember), HTML/CSS, Redis, Docker, nginx, avionics integration, SQL (PostgreSQL, SQLite, MySQL), AWS (CDK, CloudFormation, Route 53, ECS, S3, SNS, SQS, CloudFront, and others); basic knowledge of Swift, Objective-C, TypeScript, and MongoDB

Previous: Python, Rust, C, C++, Ruby on Rails, R, Lisp (Racket), PHP, MIPS, Android, Firebase, jQuery, Elasticsearch, Kubernetes

AVIATION EXPERIENCE

Certifications	Hours (February 2026)
Commercial Pilot, Instrument: ASEL, AMEL	**Total:** 1118.4
Certified Flight Instructor, Instrument: ASEL, AMEL	PIC: 989.1
Ground Instructor, Advanced and Instrument	Instrument: 107
FAA First Class Medical	Cross-Country: 392.3
	Multiengine: 58.9
Types (specialties bolded)	Night: 125.4
C152/**172**/182, **P28A/B**/R, **PA12**, PA38,	Complex/Retract: 133.9
BE23/**35/76**, CH7B, COL3, AA1, BL8, FA62, PIVE	Tailwheel: 46.4

PERSONAL WORK

roob1090

- roob1090 is a custom dump1090-powered ADS-B data ingestion pipeline that drives a real-time flight tracking API, built with Rust, Python, Express.js, MongoDB, and Docker
  - The hardware layer parses ADS-B signals decoded by dump1090 and then transmits aircraft position reports via WebSocket to an Express.js server
  - The server layer geofences individual flights into specific approaches at AUS and enriches the dataset with aircraft type and routing information from OpenSky and FlightAware
  - The API is hosted at aircraft.robsteilberg.com and is powered by a Raspberry Pi on my back porch

PATENTS

Aircraft Turbulence Notification System and Method US20250322753A1 (pending)

- Method for determining degree and impact of aircraft turbulence; filed through my work with ForeFlight on the Reported Turbulence feature in ForeFlight Mobile

INTERESTS

- SCUBA diving, holding PADI/SSI Open Water, Advanced Open Water, Rescue, Nitrox, and spearfishing diving certifications
- Global health and humanitarian work in Latin America, with additional experience in Guayaquil, Ecuador working at an equine therapy rehabilitation center for children with special needs
- Analog photography, piano, volleyball, swimming, and weightlifting