

# Waylon Peng

Software Engineer with experience in Ground Systems and Security.

## EXPERIENCE

**Space Sciences Lab**, Berkeley, CA — *Software Engineer*

MAY 2023 - PRESENT

- Designed and developed a **high-performance distributed data pipeline** for spacecraft telemetry using **NATS** and **Docker Swarm** to enable real-time mission operations and time series analysis.
- Developed internal tooling to support critical operations for the **Carruthers, COSI, ESCAPEDE, THEMIS, and NuSTAR** missions.

**Nuro**, Mountain View, CA — *Security Engineer*

JULY 2022 - MAY 2023

- Designed and implemented **security requirements** for **autonomous vehicle systems** to secure assets in the field.
- Implemented **embedded software** for intrusion detection on **realtime operating systems** and automotive networks.
- Implemented **Secure Boot, Measured Boot**, and hardware-backed disk encryption in Linux-based vehicle control units using **PKCS#11** and **TPM2.0**.

**UC Santa Cruz**, Santa Cruz, CA — *Undergraduate Researcher*

JANUARY 2022 - JUNE 2022

- Surveyed available firmware vulnerability analysis solutions.
- Assisted with vulnerability identification in **UEFI firmware**.

**Google**, Sunnyvale, CA — *Intern*

JUNE 2020 - SEPTEMBER 2020

- Designed methodologies for **performance profiling** in network modeling service used by 100+ internal developers.
- Designed and implemented a **full-stack data visualization** dashboard using **Angular** to investigate performance profiles.
- Improved latency** of queries used in internal tooling by 50x.

## PROJECTS

### DangoDB

Sharded, fault-tolerant, RESTful key-value store built using Quart and asyncio. Enforces consistency using a vector clock mechanism. Designed to be simple and horizontally scalable using Docker.

### timetab

Multi-party event scheduling web app built using React and Firebase. Designed for accessibility, ease-of-use, and modern web standards.

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## EDUCATION

**University of California, Santa Cruz**

SEPT 2018 - JUNE 2022

Computer Science BS,  
Computational Mathematics BA.

**3.95 GPA**

## SKILLS

Presented in order of familiarity.

**Languages** — Python, C++, C, Typescript, Go, Shell, SQL, Rust

**Databases** — MySQL, PostgreSQL, SQLite, Firestore

**Misc** — Gitlab CI, NATS, Docker, Vite.js, React, Angular, RTOS, Embedded Software, Linux/Unix, Git

## COURSEWORK

**UC Santa Cruz**

- Computer Security
- Computer Systems and Asm.
- Complex Analysis
- Distributed Systems
- Intro to Number Theory
- Intro to Probability Theory
- Linear Algebra
- Natural Language Processing
- Numerical Analysis
- Systems of ODEs
- Vector Calculus

## AWARDS

**CyberForce Competition, 2nd Place**

US Department of Energy — 2021

**NSA Codebreaker Challenge Solver**

National Security Agency — 2021