

Waylon Peng

Software Engineer with experience in Security and Embedded development.

EXPERIENCE

Space Sciences Lab, Berkeley, CA // Software Engineer

MAY 2023 - PRESENT

Led the design and development of a real-time **high-performance distributed data processing** system for spacecraft telemetry using **NATS** and **Docker Swarm**. Led the development of internal tooling to support critical mission operations.

Nuro, Mountain View, CA // Security Engineer

JULY 2022 - MAY 2023

Developed and implemented **security requirements** for autonomous vehicle systems. Led the design and implementation of embedded software for **intrusion detection** on realtime operating systems and automotive networks. Led implementation of **Secure Boot**, **Measured Boot**, and hardware-backed disk encryption using PKCS#11 and **TPM2.0** for onboard systems.

UC Santa Cruz, Santa Cruz, CA // Undergraduate Researcher

JANUARY 2022 - JUNE 2022

Surveyed openly available firmware vulnerability detection solutions. Assisted with vulnerability identification in **UEFI firmware**.

Google, Sunnyvale, CA // Intern

JUNE 2020 - SEPTEMBER 2020

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

PROJECTS

DangoDB

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

towa

DeepZoom image pyramid viewer web app, built using Vite.js, React and the OpenSeadragon library.

hexpiler

Lisp-like domain specific language specification and compiler for use with the Hex Casting Minecraft mod.

timetab

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

(510) 996-8167

waylonpeng.com

waylonpeng@gmail.com

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, Nomad, Docker, 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

Dean's Honors List

UC Santa Cruz // Winter 2019 - Fall 2021

CyberForce Competition, 2nd Place

US Department of Energy // 2021

NSA Codebreaker Challenge Solver

National Security Agency // 2021