Philip Pincencia

La Jolla, CA (619) 806-7630 ppincencia@ucsd.edu linkedin.com/in/1618lip 1618lip.github.io/

Education

University of California San Diego **September 2022 - December 2026**

BS in Computer Engineering, Minor in Mathematics - 3.84/4.00 GPA *La Jolla, CA*

- **Relevant Coursework**: Operating Systems, Graduate Digital Signal Processing, Graduate Linear Algebra, Graduate Convex Optimization, Graduate Stochastic Processes, Honors Abstract Algebra, Digital Design, Computer Architecture, Game Theory, Data Structures, Algorithms, Machine Learning

Experience

Qualcomm **June 2026 – Sep 2026**

Incoming PCIe Intern *San Diego, CA*

- On the PCIe team.

Synopsys **Sep 2025 – Dec 2025**

Software Developer Intern *Canonsburg, PA*

- Fixed 30+ bugs and merged 45+ PRs, contributing to Discovery 26.1 release hardening and improving product stability.
- Debugged and tested **C# UI/UX components** across a full **CI pipeline**, reducing regression failures by **30%** and improving build stability.
- Used AI-assisted tools to automate defect analysis, cutting manual triage time by **25%** and speeding release readiness.
- Applied IDE debuggers, profilers, and Git workflows across Windows/Unix, increasing integration success by **15%**.

Humannity Medtec **Jun 2025 – Aug 2025**

Software Engineer Intern *Valencia, CA*

- Built a modular biosignal pipeline using **Pydantic**, reducing validation errors by **30%**.
- Enhanced signal quality from **sleep study** via **digital filtering** and outlier removal for consistent feature extraction.
- Raised ML accuracy by **10%** through feature engineering, tuning, and automated JSON-based workflows.

Qualcomm Institute **Oct 2024 – Mar 2025**

Software Engineer Intern *La Jolla, CA*

- Developed a **real-time phase vocoder** in JavaScript for dynamic pitch and time-scale audio playback.
- Built a full-stack **Next.js/Tailwind** UI from Figma designs, improving interaction metrics by **25%**.
- Automated audio metadata handling in Python using JSON, boosting retrieval speed by **25%**.

Projects

Multiprogramming & System Call Implementation in OS Kernel | *Java, Git, Linux, OS Kernel, Virtual Memory*

- Built **system call interface** (e.g., creat, open) for user-kernel interaction with support for 8+ concurrent processes.
- Implemented dynamic page allocation with a free list, cutting memory conflicts by **90%**.
- Developed test suite using MIPS cross-compiler, achieving **95% pass rate** on syscall/multiprogramming tests.

Concurrent HTTP Server (Epoll-Based) | *C++, POSIX Threads, epoll, Linux*

- Built a multithreaded HTTP server in C++ using epoll for scalable I/O and a worker thread pool for request handling.
- Implemented a thread-safe work queue with condition variables to synchronize the epoll loop and worker threads.
- Load-tested the server with ApacheBench to verify correctness and stability under high concurrency.

Autoregressive Forecasting with Differencing | *C++, Python, CMake, Statistical Analysis*

- Built a synthetic stock forecasting pipeline using **first differencing** and AR modeling on GBM data.
- Implemented the **Levinson-Durbin algorithm** in C++ with automated AR order selection via MSE and MAPE.
- Visualized predictions in Python, achieving up to **98% accuracy** in trend reconstruction.

Technical Skills

Languages: Python, R, MATLAB, C/C++, Java, JavaScript, ARM Assembly, LaTeX, SystemVerilog
Tools/Libraries: WireShark, JUnit, gdb, Vim, Git, Regex, React, PyTorch, Docker, Kubernetes, SQL, Restful APIs

Achievement

US Top 13 IEEEXtreme 2024 **Coding Competition**, UCSD Integration Bee Top 8, World Mathematics Invitational Finalist