

# Colby Dobson

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## EDUCATION

University of San Francisco, San Francisco, CA

- President, Club Men's Volleyball
- B.S. in Computer Science; GPA: 3.61, Major GPA: 3.79
- M.S. in Computer Science;

August 2023 - Current  
August 2021 - Expected May 2025  
August 2023 - Expected May 2026

## COURSEWORK

Cloud Computing, DevOps, Compilers, Operating Systems, Machine Learning, Advanced Linear Algebra, Linear Regression, Software Development, Full Stack Web-Dev, Systems Foundations, Programming Language Paradigms, Advanced Algorithms

## PROJECTS

### Reverse Proxy

Fall 2024

- Led a team of engineers to develop a secure, scalable, and efficient reverse proxy as the primary layer of security for a production API
- Coordinated with the client to align system design with their needs, prioritizing security through fine-grained permission controls and robust access management

### Embedded Systems Arcade Game

Spring 2025 - Present

- Single-handedly developing the software for deployment on a pico pi within an arcade game.
- Implementing low-level efficient protocols like TDMA for multi-threaded, multi-device communication
- Creatively solving embedded systems problems like time, space, and I/O constraints

### RISC-V Emulator

Spring 2023

- Implemented C code to emulate a RISC-V processor and execute binary instructions.
- Designed digital circuits to build a processor using computer architecture and hardware principles.
- Enhanced data reading by parallelizing memory modules, enabling the system to read a double from two 32-bit segments as well as a single 64-bit segment.

### Portfolio Website

Fall 2023 - Present

- Developing a creative and functional website for use displaying accomplishments and in my professional workflow with Node, Express, and MySQL
- Reduced costs by 90% through analyzing various deployment strategies and consolidating systems

### Hotel Review Web App

Fall 2023

- Developed professional maintainable code using Java, Jetty, and MySQL to securely handle user login sessions, store hotel information, and serve dynamic pages
- Crafted an intuitive UX/UI design delivering a clean, consistent interface for hotel search and rating

## TECHNICAL SKILLS

**Programming Languages:** Rust, JavaScript, Java, Python, C, TypeScript, C#, MicroPython

**Web Development:** HTML/CSS, Templating, Express, React, MySQL, MongoDB, AJAX, Jetty, OAuth

**Creative Software:** Unity, Photoshop, Illustrator, Blender, iMovie

**Other:** AWS, Git, Docker, JUnit/Test-driven Development, Relational Databases, No-SQL Databases, UART, TDMA

## WORK EXPERIENCE

### University of San Francisco Computer Science Tutor

August 2024 - Present

- Quickly debug and identify issues while explaining complex topics at an elementary level

### Sláinte Volleyball Club, Head Coach

September 2021 - Present

- Coordinated engaging practices and tournaments with players, parents, and coaches to foster youth development, optimize team performance, and maintain a fun, supportive, and safe atmosphere

## VOLUNTEERING

### Apparel Fundraiser

- Independently designed apparel for, coordinated approval and manufacturing of, and handled national distribution for a multi-thousand dollar fundraiser