

Jeremy Tow

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Education

University of California, San Diego
Bachelor of Science, Computer Engineering

GPA: 4.0
Sept 2022 - June 2025 (Expected)

Courses: CSE 21 Discrete Mathematics • CSE 100 Data Structures • CSE 101 Design of Algorithms • ECE 101 Linear Systems

Experience

Freelance Programmer

Summer 2021 – Present

- Automated repetitive data analysis computations for clients, saving up to 40 hours per quarter
- Created systems to automate data gathering by calling APIs and performing web scraping

Student Cluster Competition

Summer 2023 – Present

- Designed a multi-node server for the 2023 Student Cluster Competition, an international supercomputing competition
- Implemented a 2.5D symmetric block-cyclic distribution for Cholesky factorization
- Optimized HPL benchmark to run on multiple nodes

AP Computer Science TA

Fall 2021 – Spring 2022

- Designed and deployed a Python autograding server for a class of ~90 students. Ran student code inside Docker containers for sandboxing
- Wrote a Java library that students used to build networked games. Wrote a game server that used websockets for communication

Cisco Externship

Summer 2021

- Led a team of eight people to prototype an app to simplify communication between doctors and patients. Was presented to Cisco executives
- Implemented a Figma design into an iOS app, using Swift and SwiftUI

FIRST Robotics Team 1351, Scouting Lead

Fall 2018 – Spring 2022

- Wrote an iOS app using Swift and UIKit to simplify data collection on other Robotics teams
- Created a dashboard to visualize the collected data

Projects

Fractal Music

- Used Flutter and Dart to build a cross-platform mobile client for Plex
- Built in features that either don't exist or are paywalled on the official client
- Used a man-in-the-middle proxy to reverse engineer the Plex API, which has little public documentation

jadeOCR

- Created an open-source spaced-repetition flashcard app for Chinese with 400+ users
- Used machine learning to recognize handwritten Chinese characters and provide feedback on correctness
- Implemented OAuth with Google APIs and PassportJS, designed database schemas for MongoDB, architected REST API endpoints

Homelab

- Running servers at home to save time, improve privacy, and automate my life
- Hosting websites, game servers, and Windows Active Directory
- Created custom networking setup with site-to-site VPNs, adblocking DNS server, and multiple VLANs

Skills

Languages: Javascript/TypeScript, Python, Java, Dart, Swift

Frameworks: Node, ExpressJS, Vue, React, Nuxt, SwiftUI, UIKit, Flutter, Django, Flask

Technologies/Other: Networking (NAT, DNS, VPN, etc), Docker, Linux, AWS, Video / Photo Editing (Adobe suite)