Rory Hemmings Software Engineer

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Education:

University of California Los Angeles (Sep 2021 - Jun 2025)

Cumulative GPA: **3.91** B.S. Computer Science

Relevant Coursework: Data Structures and Algorithms, Software Construction, Operating Systems, Programming Languages, Digital Systems Design, Computer Organization, Computer Networking, Computer Graphics

Work Experience:

Software Engineering Intern, NASA Jet Propulsion Laboratory - Pasadena, CA (Jun 2023 - present)
- Implemented features and tests for python script suite used by MSL Rover Planners to control the Curiosity Rover
- Wrote image processing scripts, automatic documentation infrastructure, and various bug fixes
- Greatly increased coverage and efficiency of test suite

Chief Technical Officer, Milkyway Delivery - Los Angeles, CA (Aug 2022 - present)
- Designed and implemented scalable infrastructure used to manage deliveries, drivers, and customers
- Built web application using Express.js, React.js, and Stripe api to automate process of delivery requests
- Managed small team of engineers and wrote documentation for entire platform

Lead Software Engineer, UCLA Mock Trial - Los Angeles, CA (Jul 2022 - Jan 2023)
- Designed and built a scalable cost-efficient web platform to store and manage videos, documents, contacts, and resources
- Wrote python scripts to centralize ~5 terabytes of videos and documents in the cloud
- Created search engine to query videos by transcriptions and other metadata
- Build a multithreaded video transcriber utilizing machine learning under major cpu, ram, and storage constraints

Cybersecurity Officer, ACM at UCLA - Los Angeles, CA (Nov 2021 - present)
- Hosted educational workshops on a variety of cybersecurity topics
- Competed for PBR, UCLA's biggest competitive cybersecurity CTF team

Web Development Intern, Pasadena Unified School District - Pasadena, CA (Jun 2020 - Aug 2020)
- Developed and debugged Covid-19 response section of PUSD's website
- Helped inform over 18,000 students about Covid-19 procedures for the 2020/21 school year

Projects:

Vortex, Game Engine (C++, SFML, Box2D)
- Manages and updates up to 5000 entities and interactions per frame
- Data-oriented Entity-Component System greatly increases performance over traditional object-oriented approach
- Provides API to manage assets, states, user input, physics, and rendering

Router Software (C, C++)
- Simulates ip, tcp, and udp protocols across LAN and WAN connections using NAPT
- Concurrently forwards packets between multiple connections

Sheet Music Transcriptions Platform (Javascript, Express.js, HTML, CSS, SQLite, Passport.js)
- Stores user uploaded pdfs and images along with descriptions and associated tags
- Supports fuzzy and keyword search, likes, and comments on uploaded transcriptions
- Free and open source alternative to existing sites, allowing community growth alongside learning

Skills:

Programming Languages: C++, C, Python, Javascript, Java, x86/x64 Assembly, OCaml, HTML, CSS, Prolog

Tools, Frameworks, and Technologies: Linux, Git, shell, Node.js, Express.js, React.js, Flask, REST APIs, GDB, AWS, Unity, PostgreSQL, MongoDB, SQLite, Google APIs, Stripe API, vim, regex