Benjamin Hinchliff

Cal Poly CS Student & Multitalented Programmer

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EXPERIENCE

NASA Jet Propulsion Laboratory | Intern (Part Time) Sept 2023 –

- Brought on part time after internship
- Working to continue Development on Mars Rover Simulation Software

NASA Jet Propulsion Laboratory | Intern (Full Time) June – Sept 2023

- Worked to Develop and Maintain Mars Rover Simulation Software (RSVP Suite)
- Ported simulation software from RedHat Enterprise Linux (RHEL) 7 to RHEL 8
- Fixed major issues including crashing bugs, logic bugs, data format incompatibilities, and more
- Developed new terrain searching features

Versational | Full-stack Software Developer June – Sept. 2021

- Created dashboard for the consumer analytics platform Versational
- Built platform integration with AssemblyAI transcription API, front-end and back-end
- Connected speakers to user accounts
- Assisted development of Deep Learning "Gems" identification models based on BERT
- Integrated the machine learning “Gems” identification models into the platform and dashboard
- Fixed bugs throughout the platform, such as credential leakage to the frontend

VenAdvisory | Software Developer June – Sept. 2020

- Built WordPress (PHP) front-end and back-end to create new transcripts for customer analysis
- Identified and fixed security issues including Cross Site Scripting and SQL Injection
- Gained professional experience working with an offshore development team

PROJECTS EXAMPLES

Full (uncurated) list at benjaminhinchliff.com/projects

WebGPU Accelerated Raytracer | C++20, CMake, Dawn

- A GPU accelerated Raytracer based on Google's Dawn WebGPU implementation
- Supports creation of scenes program side
- multiple primitives, material, supported using dynamically generated WGSL shaders

Portfolio Website (Source) | Svelte(kit), SSR, HTML, SCSS, TS, JS, Vite

- Uses SSR and caching techniques to (optionally) work without JS
- Compact, using a production framework and a real build system

Dungeonator (Source) | C99, CMake, C++17, Catch2 (for tests), doxygen (for docs)

- Small and lightweight library for procedural dungeon generation
- Code written entirely in standards-compliant C99
- Fully documented: benjaminhinchliff.github.io/dungeonator

SKILLS

Programming

- Computer Science Fundamentals - e.g. Data Structures and Algorithms
- C/C++ (7+ years) - STL, OOP, API development, Boost C++, Qt, GTK, FLTK, Template Metaprogramming
- Web Development (6+ years) - React, Vue, Svelte, jQuery, vanilla JS
- Rust (4+ years) - Ownership, Lifetimes, Effecient Multithreading
- Other (3+ years) - SQL, Python, Rust, Assembly (x86 & x86_64)
- Other (1+ years) - Zig, Assembly (arm64)

Tools/Others

- Scripting(Bash, Python), git, CI/CD (Github Actions & Jenkins), Linux/Unix (X11 & Wayland), Windows
- LaTeX, (Neo)Vim, Visual Studio Code, IntelliJ IDEA, Visual Studio, Microsoft Office / LibreOffice

EDUCATION

California Polytechnic State University, San Luis Obispo (Cal Poly) | B.S. Computer Science 2025

GPA 3.85 (President's Honors List)