

# Ben Herman

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**SEEKING:** Summer internship in computer science, data science, or machine learning.

## EDUCATION

**Rensselaer Polytechnic Institute** - Troy, NY

B.S. Mathematics & Computer Science (Dual Major), Expected May 2028 | GPA: 4.0

Relevant Coursework: Data Structures, Foundations of Computer Science, Differential Equations, Linear Algebra, Introduction to Algorithms, Advanced Computer Systems, Rensselaer Center for Open Sources

## SKILLS

Languages/Tools: C/C++, Python, Java, C#, Lua, Git, OpenCV, Pandas, JavaScript, VS Code, Xcode, Unity

Focus areas: data structures, data analysis, visualization, machine learning, comp. arch., robotics

## EXPERIENCE

**DigitalFish** - Burlingame, CA

C++ Software Engineer Intern, June 2024 - August 2024

- Reproduced an ML research paper in C++, producing 3D animation via generative AI given user-defined tasks, and integrated it into a large commercial application.
- Designed and implemented C++ unit tests for a 3D-math library.
- Analyzed and fixed bugs involving incorrect handling of floating-point numerical error.

**Stony Brook University Center for Thermal Spray Research** - Stony Brook, NY

Summer Intern, June 2023 - August 2023

- Prepared and ran experiments on particles in high-velocity, high-temperature plasma-spray plumes.
- Applied advanced sensors to characterize particles in flight, collected data, wrote software for scientific analysis and visualization, and presented results to the group.
- Developed data-correction software allowing a large, legacy dataset to be used in future analysis.

**iD Tech** - Stanford, CA

Instructor, July 2025 - August 2025

- Taught 50+ students (ages 10-17) fundamentals of Unity, Roblox Studio, and Meta Quest VR development in fast passed week long courses.
- Planned personalized lessons covering level design, 3d transforms, programming, and software navigation.

**FIRST Robotics Competition - Team 5940** - Redwood City, CA, August 2021 - May 2024

- Developed a real-time vision pipeline running on a local network of embedded devices for robot pose estimation from vision targets.
- Integrated discrete robot-software subsystems developed independently by multiple team members into the unified operational software used on the final robot.

## PROJECTS

**Connection Machine** — 2024 to Present — Lead a 10-person development team in the Rensselaer Center for Open Source. Built a high-performance C++ simulation platform (Vulkan, SDL) for large-scale logic-gate graphs, targeting educators and hobbyists.

**Pose Tracker** — 2022 to 2023 — Implemented real-time ML human-body pose estimation using Google's MediaPipe and webcam streams. Designed a calibration pipeline for camera extrinsics and integrated with Scrap Mechanic via Lua scripting to control in-game objects.

**Independent Games and Mods** — 2020 to Present — Using Python, C#, and a variety of other languages, implemented free-standing games and mods. Participated in "game jams" and collaborated with other game and mod developers across the world.

**3D Volumetric Renderer** — 2020 to 2022 — Created a ray-tracing engine in JavaScript, employing a hand-built differential digital analyzer (DDA) raycaster with Phaser 2D as a visualization engine.