Eric Gosnell

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Education

BS in Computer Science | University of Colorado Boulder Expected in May 2026
Minor in Computer Engineering, Certificate in GIS and Computational Science *Current GPA: 3.72/4.0*

Coursework

Data Structures, Algorithms, Programming Languages, Software Development, Computer Systems, Operating Systems, Digital Logic, Computer Organization, Database Systems, Theory of Computation, Graphics

Awards

Horace M. Hale Esteemed Scholar Award, Dean's List, Coal Creek Canyon Community Scholarship, Seal of Biliteracy in Spanish

Skills

Tools: Git/GitHub, GDB, Valgrind, CMake, Linux, CLion/PyCharm/IDEA, Vivado, VS Code, Jupyter Notebook
Languages: C/C^{++}, Python, SystemVerilog, RISC-V Assembly, SQL, HTML, CSS, JavaScript, Java, Scala, Rust, LaTeX
Libraries & Frameworks: OpenGL, OpenMP, NumPy, Pandas, Django, NodeJS, Postgres, MongoDB

Experience

Computer Science Department Assistant | *University of Colorado Boulder* August 2024 – Present
Manage the Computer Science Education Lab, which includes scheduling room bookings and providing resources to students.
Assist the CS Front Office by answering phone calls, sorting mail, loaning out resources, and more.

Forestry and Landscaping | *Coal Creek Canyon, CO* June 2020 – August 2024
Started a yard work service within the local mountain community, interfacing with a large number of clients, and managing my teams schedule and tasks.
Primarily built rock walls, mitigated wildfire risk, and controlled erosion.
Additionally provided volunteer services to community members in need.

Back-End Developer | *Blueprint Boulder* August 2022 – June 2023
Developed a web portal for the local non-profit Lafayette Empowerment Center.
Created a database system for managing their students, programs, and donations.
Experience with Python, Django and Figma.

Projects

Personal Website | *HTML, CSS, JS* Present

- Creating my own personal website from scratch using HTML, CSS, and Javascript.
- Covers my interests, hobbies, and projects more in-depth.
- Hosted at https://ericgosnell.github.io/

OpenGL Mountain Scene | *C, OpenGL, ArcGIS Pro, GDAL* September 2024

- Created a 3D mountain scene with changing seasons from scratch in OpenGL using a USGS digital elevation model that I processed and ran calculations against to determine biome and color.
- Heavily optimized by directly accessing GPU memory, along with other optimization algorithms that I implemented like frustum culling and proximity-based rendering.
- More details can be found here: https://github.com/EricGosnell/CSCI4229-Mountain-Scene

DEM Accuracy Improvement Proposal | *Remote Sensing, Data Processing, Machine Learning* March 2024

- Proposed a novel method using lidar drones and machine learning algorithms to increase the resolution and accuracy of digital elevation models (DEMs) provided by USGS 3DEP.
- Wrote a 10 page paper detailing the process and limitations of this method within various regions of Colorado

ClientScript Libraries | *Arucas* 2022

- Incorporated various mathematical algorithms into a public scripting library using a Kotlin-based language.
- Implemented Perlin Noise and similar algorithms, Bezier Curves and graphing support, rotation and translation functions, and more