COLIN M GALBRAITH

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EDUCATION

BS Applied Math & Specialization in Computing |June 2025|UCLA
GPA 3.7|Dean's Honor List 2022, 2023| Member Society Industrial and Applied Mathematics

SKILLS

Languages/Programs: C++, C#, Python, Java, SQL, MATLAB, Git, HTML, CSS, JavaScript, Tableau, Excel

Design: Figma, Unity, Unreal Engine, FL Studio, Blender, Photoshop, Inventor, DaVinci Resolve, Premiere Pro

Relevant Courses: Numerical Analysis I & II, Probability & Statistics I & II, Advanced C++, Optimization, Mathematical Modeling, Linear Algebra, Real & Complex Analysis, PDEs, ODEs, Discrete Structures, Principles of Java, Python & Applications

EXPERIENCE

Elegant Mind Lab |UCLA Physics Department | 2024 – present |
- Lab member working on computational modeling of microscopy data of *C. Elegans* neural activity

Applied Math Intern | Knight Cancer Institute & HHMI Janelia Research Campus| 2024 |
- Developed Python and MATLAB ON/OFF frequency analysis of blinking dyes for super-resolution microscopy
- Analysis integral to the development of Live-Cell application of Stochastic Optical Fluctuation Microscopy

Laboratory Assistant | UCLA Math Department, Program in Computing (PIC) | 2024 - present |
- Provided one on one and group coding assistance with coding assignments to over 100 students (C++, Python and Java)

Intern at UCLA Radio | UCLA | 2023 - 2024 |
- Spearheaded fundraising initiatives for events, and designed accompanying promotional material
- Collaborated with national labels, including Golden Voice Records, facilitating exclusive interviews and performances.

Web Site Developer | 2022 - 2024|
- Led the design, development and maintenance for the Creative Commons Club website creating a user-friendly site

Data Science Intern | Oregon Health & Science University | 2020 |
- Designed and created a web-based platform for updating the inventory of DNA plasmids with Python & Excel
- Connected the inventory platform to an international database via Benchling, aligning with industry standards

PROJECTS (ON GITHUB) & LEADERSHIP

Graphics | 3D Graphics Engine - V1 Prospective Projection | 2023 - Present |
- Created a 3-D graphics engine to view objects in Python, using Pygame, NumPy and optimized with Numba
- Applied Linear Algebra to implement view frustum, object & camera movements, clipping and projections

3D Graphics Engine - V2 Forced Perspective
- Expanded on V1 to add functionality where users explore a procedurally generated maze
- Utilizing forced perspective graphics, implemented ray casts to simulate perspective and depth
- Created in Python using Matplotlib, Numba, NumPy to optimize performance and improve visuals

Web Development |Personal Website & Workout Tracker App | 2024 – Present |
- Published an adaptive personal website using HTML, CSS and JS
- Launched a simple & intuitive workout-tracking web & mobile app that lets users track workouts and visualize workout volume

Algorithms | Dijkstra's Path & Heat Equation | 2023 - Present |
- Used Python plugins and Dijkstra's algorithm to create a unique interactive visual display, highlighting the shortest path
- Utilized Python libraries to implement Finite Difference Method to solve and visualize the 1 & 2D Heat Equation

Musician & Entrepreneur | Lento on Spotify | 2019 – Present |
- Created and published music on Spotify, generating over 600k unique listeners, 2M streams (annually)
- Independently monetized by networking with industry producers, playlists, and record labels
- https://open.spotify.com/artist/1GM1bRnpv4kP0DhcRJkV8u?si=gbfUF8dXTqGXK2Emy0xZ4A

Camping Club General Director | UCLA | 2023 – Present |
- Initiated partnerships with local vendors to secure discounted rates on camping gear and supplies
- Managed the logistics and transportation of equipment for trips involving 20+ participants, ensuring all necessary gear was accounted for and successfully delivered to and from each site