

VIOLET ELLIS

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EDUCATION

Woodbury University | *B.S. Applied Computer Science*

Magna Cum Laude | GPA 3.8

Honors Program; Dean's List, all semesters; Tau Sigma Delta National Honor Society; Music Association President; 7500 Publishing Club VP

INDUSTRY EXPERIENCE

Treobytes | *Product Development Specialist*

San Diego, CA | August 2025 - Present

- Designed and shipped a production AI agent system via Claude API that generates compliant, submission-ready proposals and grant documents from live data via retrieval-augmented generation (RAG), cutting team turnaround from 4 days to 5 hours.
- Removed the engineering bottleneck from document production by creating self-service widgets with built-in templates and safeguards, enabling non-technical colleagues to independently produce and submit a variety of internal and external documents.
- Reduced compliance risk by engineering an automated LLM-as-judge review into the document pipeline, flagging policy and brand-guideline violations for correction before anything reaches clients.
- Built and continue to maintain TreoTools, an internal React platform pairing a daily-use facilitator app with a management admin console, now adopted as the central hub organization-wide for daily operations and oversight.
- Accelerated business-development targeting by designing a desktop business intelligence app and web version offering a repeatable analysis-to-CRM pipeline that converted 50+ unstructured lead datasets into scored, ranked opportunity lists.

WORK EXPERIENCE

University of Redlands, LA Campus | *Adjunct Professor, Game Art and Design*

Burbank, CA | August 2024 - Present

- Designed and delivered the GAME 203: Sound Design Fundamentals curriculum, teaching undergraduates to ship adaptive game audio systems across dialogue, SFX, and music via C#/Blueprint scripting in Unity and Unreal Engine 5 with Wwise and FMOD middleware.
- Built hands-on labs in industry-standard DAWs (Ableton Live, FL Studio) covering foley, SFX, music loops, MIDI, and device racks, with students authoring and implementing interactive, replayable audio via vertical stacking and horizontal resequencing.

Treobytes | *Summer STEM Facilitator, Program Manager*

San Diego, CA | June 2020 - August 2025

- Developed technical curricula from the ground up; taught programming (Python/C++), robotics, and circuitry to more than 200 students; as program manager, led summer STEM operations across 5 sites simultaneously; trained and onboarded 30+ facilitators.

SELECTED PROJECTS

Arduino MIDI Keyboard | *Hardware Product, 300+ units shipped*

Treobytes, 2025

- Designed a plug-and-play USB MIDI keyboard compatible with any standard music software (flagship classroom product, 300+ shipped).
- Took it prototype-to-production end-to-end: circuit, USB-HID firmware, CAD housing, and manufacturing coordination.

Real-Time Adaptive Audio Tooling | *Technical Sound Design for video games*

Showcased at GDC San Francisco, 2024

- Built a game-engine tool that produces unique adaptive audio per play session; showcased at the Game Developers Conference 2024.

Generative Adversarial Network (GAN) | *Trained Image Generator*

Woodbury University, 2022

- Trained a GAN image generator from scratch on 2,500+ images in 48 hours, owning the full pipeline: data prep, GPU training, checkpointing, and evaluation.

Generative 3D-Printing Research | *Kuka Manufacturing Arm*

Woodbury University, 2022

- Sole programmer on the school's first large-scale robotic 3D-printing team; wrote Python generative-algorithm pipelines (Rhino / Grasshopper) that produced sculptural geometries and fabrication-ready exports utilizing a custom print head.

Bilingual Healthcare Web Tooling | *English/Spanish Translator Tool*

AltaMed (formerly ChapCare), 2022

- Contracted by ChapCare to contribute front-end development to a shipped English/Spanish translator tool; created WebFlow demos for a healthcare-site overhaul, with a focus on bilingual content and accessibility.

SKILLS

Languages: Python, JavaScript / TypeScript, SQL, C#, C++

Platforms: Linux / Windows / macOS

AI and ML: Claude API, LLM agent design, GAN image generation, prompt engineering, RAG, agentic workflows, responsible-AI review

Audio and Game Tech: Unity, Unreal Engine 5 (Blueprint), FMOD, Wwise, adaptive-audio implementation, Xbox Kinect, XR tools

Web and Data: React, Node.js, Express, Vite, PostgreSQL, JSON schema design, Docker, Git / GitHub

Hardware and Fabrication: firmware (USB-HID), circuit design, OnShape CAD, laser cutting, 3D printing, soldering, in-house CAM

Interpersonal: technical communication, cross-functional collaboration, stakeholder engagement staff training

AWARDS, PRESS AND RECOGNITION

Featured for "HAIKU" soundtrack in INDIEWRAP's book "Short Films: A Non-Exhaustive List of Highly Creative Shorts", 2023
Best Thesis Award & Academic Excellence Awards, 2022 & 2023

Featured for computational-design research in Dezeen, 2023
Best Composer, Silver - Tokyo Film Awards, 2022
Best Original Music (Nominee) - New Creators Film Awards, 2022