

Elijah Olson

ElijahOlson510@gmail.com | +1 (510)-414-2229 | [Website](#) | [LinkedIn](#) | [Github](#)

Education

B.S. Computer Science & Engineering | Minor in Philosophy - *University of California, Merced* ————— 08/2026

Computer Science Coursework: Deep Learning, Neural Networks, Natural Language Processing, Software Engineering, Computational Neuroscience, Algorithm Design and Analysis, Data Structures and Design Patterns, Full-stack Web Development, Natural Image Processing

Philosophy Coursework: Tech Ethics, Philosophy of the Human Mind, Cognitive Neuroscience, Contemporary Ethics, Metaphysics, Modern Philosophy, Ancient Philosophy

Engineering Coursework: Calculus I-III, Linear Algebra, Linear Analysis, Discrete Mathematics, Statistics, Static and Dynamic Engineering, Circuit Theory, Physics (Newtonian, Optics, Magnetism)

Research Experience and Interest

My interest in understanding the ideological structures that constitute experiential human life has led me to the research of cognitively integrated systems. Creating a foundation for my technical work that aligns with our ingrained preferences requires first understanding humans, not just in the abstract, but in the experiential. It is from this understanding that I believe AI can be built to genuinely resonate with humanity, reflecting not only our stated values but the deeper structures of belief, desire, and identity that experience produces in us. I am particularly interested in how the ideological and experiential structures of human life can inform the design of AI systems that humans genuinely want.

Neural Simulation Architect | [SIMBRAIN](#) ————— 06/2025 - 08/2025

Working alongside Jeffery Yoshimi on Simbrain, I helped develop and implement biologically grounded neural simulations, translating neurological phenomena into fully functional computational models, spanning the breadth of modern cognitive neuroscience and machine learning research. This work demanded constant learning, and an intimate familiarity with diverse neural architectures, from leaky integrate+fire and Izhikevich to adaptive exponential, allostatic, and STDP systems, each serving as building blocks for simulations about larger brain regions, language acquisition, reinforcement learning, and evolutionary behaviors. Alongside the technical development, I contributed comprehensive documentation and interface refinements to make the platform accessible to professionals, researchers, and students of varying expertise, bridging the gap between theoretical complexity and practical usability.

Research Assistant | *University of California, Merced* ————— 11/2023 - 03/2024

My work as a Research Assistant at UC Merced marked my first immersion into the world of cognitive science and professional research. Contributing to dissertation work investigating the neural correlates of consciousness through a methodology that was as philosophically ambitious as it was empirically rigorous was an incredible change of pace relative to undergraduate courses. In this research, I developed data processing scripts in Python to extract, clean, and organize EEG datasets capturing neural responses to external auditory and visual stimuli under varying conditions of perceptual and cognitive load. This made it possible to identify event-related potentials and oscillatory activity across alpha, beta, and theta frequency bands. The processed data fed directly into empirical analysis supporting a graded, pluralistic model of consciousness, [published through the UC eScholarship repository](#). The experience was genuinely exploratory, revealing to me an intersection of neuroscience and philosophy of mind, creating the room for my curiosity of humanistic science to exist, and ultimately leading me to pursue this interdisciplinary mindset in my own goals.

Work Experience

Website Manager and Data Technician | *University of California, Merced* ————— 09/2025 - Current

As Website Manager and Data Technician at [UC Merced's Community Engagement Center](#), I led an entire full-stack redesign of the UC website, collaborating closely with non-technical colleagues to translate organizational goals into a cohesive and intuitive web design. The work demanded an intertwining between technical execution and human-centered design, requiring me to think deeply about how the average user navigates, perceives, and engages with information. Drawing on my experiences in prior web development projects and classes, and Don Norman's *The Design of Everyday Things*, I learned how to successfully implement a technical product with user friendliness as the external facing priority, resulting in a redesigned platform achieving a 22% increase in user engagement and a 45% increase in event attendance. Alongside the redesign, I developed and implemented surveys, experience reports, and automated data pipelines for UC Merced-affiliated community programs to create infrastructure for streamlined feedback and engagement tracking across all the UC organizations.

Fullstack Engineer Intern | *Patient Safety* ————— 06/2024 - 08/2024

My internship at Patient Safety was defined by a steep learning curve under high expectations in an environment that demanded consistent rigor. I had never worked with databases containing anything close to the scale of information we were handling, but still tasked with building backend data pipelines in Python and SQL, automating CSV ingestion with validation, and architecting infrastructure capable of managing medical data across millions of records. The experience gave me an incredible foundation in professional engineering practices and instilled a deep respect for the weight of building systems where data integrity is not optional. More than anything, though, it taught me how to learn on the job. Collaborating alongside a partner engineer, we wove together back and frontend through Django and PostgreSQL interface design, allowing the technical architecture to dissolve beneath a seamless and human-centered experience, utilizing familiar google sprites, and intuitive design.

Software Engineer Intern | [Tappity Inc.](#) ————— 04/2020 - 10/2021

Joining Tappity was my initiation into the tech world, surrounded by people who knew that and met me with a kindness and pedagogical patience that proved formative. Drawing from my prior experience working with children, I collaborated with full-stack engineers to design and implement new experiential learning activities for the science education app, allowing my understanding of how children engage and retain information to guide the work as I slowly grew into the technical demands. The company fostered a connection to the tech industry that pushed me toward building a career in it, and was the foundation for my love of technological capacities.

Projects

[Lawrence Livermore National Laboratory AI & Education Research](#) (Capstone): Team-Lead - developing STEM educational video games in collaboration with LLNL researchers, investigating the effectiveness of game-based learning environments for user engagement, information retention, and learning-environment feasibility.

[Syllabud.app](#): live website and second-place hackathon winner. Full-stack AI course creator using Google Gemini, FastAPI, React, PostgreSQL, and CSS with JWT authentication. Users input subject, timeline, depth, and learning style to generate personalized curricula with curated resources. Deployed on Railway.

[Function Visualization](#): A design tool made in Python and Pygame that renders complex fractals (Mandelbrot, Fibonacci, etc.) by mapping functions to visual outputs, exploring the intersection of math and generative art.

Skills

Programming & Dev: C++, C#, Python, Kotlin, JavaScript, HTML, GDScript, Django, React, SQL, Flask, Pandas, TensorFlow, PyTorch, GitHub, PostgreSQL

AI & Neuro: Deep Learning, ML, Neural Networks, Comp Neuroscience, Neural Sim, Hidden-Layer Analysis

Philosophic: Tech Ethics, Philosophy of Mind and Cognition, Ethical AI systems, Contemporary and Modern Ethics

Procedural: LLM prompt engineering, Project Engineering, UX, Data Visualization, Technical Documentation, Cross-Functional Communications, Systems Thinking, Human-Centered Design, Figma, Lucid