

# Owen Fahey

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## Experience

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### Salavon Lab

Chicago, IL

*Machine Learning Operations Engineer*

September 2022 – May 2024

- Led system design of large-scale computational art pieces created using in-house models, netting \$120k+ in sales.
- Authored over 15,000 lines of Python and 5,000 lines of JavaScript in the lab's codebase.
- Architected video rendering pipelines that autonomously generated thousands of hours of video content from massive datasets of conditioning data, diffusion models, utilizing OpenCV, and GPU task allocation.
- Managed 2 engineers and worked alongside 3 designers to build a web application that integrates 43,700 video tiles into a synchronized map interface with React, Apache, Leaflet, and Node.

### University of Chicago Computer Science Department

Chicago, IL

*Visual Computing Research Assistant (working under Prof. Kindlmann)*

May 2023 – May 2024

- Researched failures in visual literacy arising from differences in color perception.
- Developed numerical computing software to produce individualized color spaces, enhancing data comprehension.
- Designed course content and held office hours for over 50 students for CMSC 23900: Data Visualization.

### Lexset.ai

Brooklyn, NY

*Software Engineer Intern*

January 2022 – September 2022

- Added dozens of client-requested features to Blender-based 3D scene generator, facilitating the at scale creation of photorealistic synthetic image datasets for downstream computer vision tasks.
- Produced a dataset of 38,000 synthetic sign language images, instrumental in securing the company's largest client.
- Monitored and debugged CoreWeave GPU instances ensuring optimal performance in machine learning workflows.
- Implemented an automated asset and image tagging system, reducing processing time by 80%.

## Education

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### The University of Chicago

Chicago, IL

*Bachelor's in Computer Science (with Honors) & Bachelor's in Philosophy*

June 2024

- CS GPA: 3.92. Graduated Cum Laude. Specialization: Machine Learning.
- Relevant Coursework: Honors Algorithms, Database Systems, Computer Systems, Deep Learning Systems (graduate).

### National Outdoor Leadership School

Lander, WY

*Fall Semester in the Rockies*

August 2021 – November 2021

- Developed teamwork, leadership, and first responder skills on wilderness expeditions.

### Harvard-Westlake School

Los Angeles, CA

*Diploma (Summa Cum Laude)*

September 2013 – June 2019

- GPA: 4.59. SAT: 1590. ACT: 36. American Invitational Math Exam Invitee (top 5% of AMC 12 scores).

## Skills

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**Languages:** Python, JavaScript, C, Rust, HTML, CSS, Scala

**Python Libraries:** PyTorch, OpenCV, NumPy, PIL, Flask, Jupyter Notebook

**Other:** Linux, CI/CD, Git, GitHub, Bash, FFmpeg

## Projects

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### Scientific Visualizations Tools · C, WebAssembly

January 2024 – Present

- Created visualization tools for topographic mapping, multithreaded volume rendering, and vector field imaging.
- Adapted C-based visualization tools for web use with WebAssembly and WebAssembly System Interface.

### Relational Database Storage Manager · Rust

January 2023 – March 2023

- Engineered a high-performance storage manager, enabling efficient queries, concurrency, and durability.
- Implemented query functions such as AGGREGATE, GROUP BY, and JOIN from scratch.

### Music Overlap Analyzer · Python, OAuth, scikit-learn

April 2022

- Built an application to identify songs and artists mutually listened to by two users.
- Employed k-means clustering to generate Spotify playlists based on overlapping musical preferences.