

# Owen Fahey

(310) 433-3042 · [owenfahey@uchicago.edu](mailto:owenfahey@uchicago.edu) · [linkedin.com/in/owen-fahey](https://www.linkedin.com/in/owen-fahey) · [owenfahey.com](https://owenfahey.com)

## Experience

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### Jason Salavon Studio

Software Developer

Chicago, IL

June 2022 – Present

- Led system design and engineering on large-scale computational art pieces, contributing 10,000+ lines of Python and 5,000+ lines of JavaScript to the art-research lab's codebase.
- Architected internal video processing tools and pipelines utilizing OpenCV, diffusion models, and GPU programming, enabling the production of animations with billions of pixels per frame.
- Engineered a web application that integrates 43,700 video tiles into a synchronized map interface using React.js, Apache, and Node.js.
- Collaborated with a team of 3 designers to quickly transform Figma mockups into functional software prototypes.

### University of Chicago Computer Science Department

Research Assistant for Professor Gordon Kindlmann

Chicago, IL

May 2023 – Present

- Conducted A/B testing to compare the speed and accuracy of color perception modeling techniques.
- Improved data visualization efficacy by calibrating color spaces like CIELAB to be genuinely perceptually uniform.
- Served as a teacher's assistant for Data Visualization, writing assignments and holding office hours for 50+ students.

### Lexset.ai

Software Engineer Intern

Brooklyn, NY

January 2022 – June 2022

- Added dozens of client-requested features to Blender-based 3D scene generator, facilitating the creation of photorealistic synthetic image datasets for downstream computer vision tasks at scale.
- Created 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

Bachelor's in Computer Science with Honors & Bachelor's in Philosophy

Chicago, IL

Expected June 2024

- CS GPA: 3.91
- Specialization: Data Science
- Selected Coursework: Honors Algorithms, Database Systems, Computer Systems, Deep Learning Systems (graduate)

### National Outdoor Leadership School

Fall Semester in the Rockies

Lander, WY

August 2021 – November 2021

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

**Test Scores:** SAT: 1590, American Invitational Math Exam Invitee (top 5% of AMC 12 scores)

## Skills

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

**Python Libraries:** PyTorch, OpenCV, NumPy, PIL, Flask, Django, 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.