Owen Fahey

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EXPERIENCE

Jason Salavon Studio — Chicago, IL
Software Developer — *June 2022 – Present*

- Leading system design and engineering on computational art pieces created using in-house GAN and style transfer models, contributing 10k+ lines of Python and 5k+ lines of JavaScript to the art-research lab's codebase.
- Developing an internal library of image and video processing tools using OpenCV, diffusion models, and parallel computing, facilitating the creation of animations with billions of pixels per frame.
- Collaborating with designers to quickly transform Figma mockups into functional software prototypes.
- Engineering a web application with a highly customized map interface using React.js, Leaflet, Apache, and Node.js that receives thousands of monthly visitors.

University of Chicago Computer Science Department — Chicago, IL
Research Assistant to Professor Gordon Kindlmann — *May 2023 – Present*

- Working to improve the effectiveness of data visualizations by accounting for differences in color perception.
- Refining the CIELAB model to produce perceptually uniform color spaces tailored to individual users.
- Constructing an application for research studies to compare the efficacy of techniques aimed at rapidly and accurately modeling an individual's color perception.

Lexset.ai — Brooklyn, NY
Software Engineering Intern — *January 2022 – June 2022*

- Added dozens of client-requested features to Blender-based 3D scene generator, facilitating the creation of photorealistic synthetic image datasets to improve downstream computer vision tasks.
- Secured the company's largest client by creating a dataset of 38,000 synthetic American Sign Language images.
- Reviewed and implemented advanced techniques from computer vision papers.
- Automated asset and image tagging, reducing processing time by 75%.

EDUCATION

The University of Chicago — Chicago, IL
Bachelor of Science in Computer Science & Bachelor of Arts in Philosophy — *Expected June 2024*

- CS GPA: 3.90
- Selected Coursework: Honors Algorithms, Software Development, Database Systems, Computer Systems, Computer Vision, Programming Languages

National Outdoor Leadership School — Lander, WY
Fall Semester in the Rockies — *August 2021 – November 2021*

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

Test Scores: SAT: 1590, ACT: 36, American Invitational Math Exam Invitee (top 5% of AMC 12 scores)

SKILLS

Languages: Python, JavaScript, C, Rust, HTML, CSS, Scala, SQL
Python Libraries: PyTorch, scikit-learn, OpenCV, NumPy, PIL, Django
Web: React.js, Next.js, Node.js, D3.js, Apache, Web Components, Express.js, Three.js
Other: Linux, CI/CD, Git, Github, Bash, FFmpeg

PROJECTS

Voxel Subdivider · *JavaScript, Three.js* — *September 2023*

- Developed a web application to interactively subdivide a single voxel into an intricate voxel model.
- Implemented the logic to convert glTF 3D models into voxelized form.

Relational Database Storage Manager · *Rust* — *January 2023 – March 2023*

- Designed a functioning storage manager and slotted pages for a relational database using heap files.
- Implemented query operators such as AGGREGATE, GROUP BY, and JOIN from scratch.

Programming Language Interpreters · *Scala* — *October 2022*

- Engineered an interpreter for the simply-typed lambda calculus, complete with a scanner, parser, and evaluator.
- Engineered an interpreter for a novel language with mutable memory, exceptions, and type checking / melding.