Matthew Laws

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EDUCATION

Williams College, B.A. Computer Science; GPA: 3.92 (Major) / 3.85 (All) Expected June 2025

- *Awards and Honors*: First Place in Williams College x Mysten Labs Hackathon, Class of 1960 Scholar in Computer Science, Dean's List
- *Relevant Coursework*: Operating Systems, Machine Learning, Deep Learning, Causal Inference, Computer Graphics, Robotics, Programming Languages, Algorithms & Analysis, Computer Organization, Data Structures, Linear Algebra, Multivariable Calculus, Probability and Statistical Modeling

TECHNICAL SKILLS

- **Programming Languages**: C/C++, Python, JavaScript / TypeScript, React (Proficient) | Java, R, Shell, Move, SQL, Go, F# (working knowledge)
- **Tools / Frameworks:** AWS S3 / & R53, NodeJS, Git, Ab Initio, CSS (Development) | Tensorflow (Keras), Scikit-learn, OpenCV (AI/ML) | Snowflake, Postgres (Database) | OpenGL, GLSL, x86, LaTeX, .NET

SELECTED PROJECTS

- **ASL Interpreter:** Developed a computer vision model that identifies ASL letters. Attained 97% accuracy for letters and 95% accuracy for words. Ships with a live video recognition feature for real time translation.
- **Snar Delivery:** Developed a web3 food delivery service like DoorDash for Williams on Sui Move. Project was awarded first place at the Williams x Mysten Labs Hackathon 2024. Hosted @ snar-delivery.vercel.app
- **IAS Regression Testing Engine:** While working at IAS, developed a test engine capable of regression and ad hoc testing to validate new twitter pipeline code for backward compatibility.
- **Williams College Rugby Website:** Developed and launched a website for the Williams College Rugby Team from ground up using React and hosted through AWS s3 @ williamscollegerugby.com.
- **Thread Library, Disk Scheduler, & Memory Manager:** Using C, implemented a uni-core thread library with synchronization primitives, a process level disk scheduler using the thread library. Additionally, implemented a memory pager with multi-process scaling.
- **Stochastic Parody:** Created a programming language in F# that allows users to easily create song parodies.
- **Mini Golf Game:** Created a ray traced 3D Mini Golf game with blinn-phong lighting using OpenGL.

WORK EXPERIENCE

Computer Science Dept., Williams College, ***Science Research Fellowship*** June 2023 – Present

- Work with Professor Sam McCauley to develop a faster Succinct Rank and Select Data Structure.
- Studied and presented the relevant literature to Professor McCauley and helped fine tune a new structure.
- Implemented multiple new designs in C and optimized them for cache efficiency and speed.
- Helped draft a paper describing our results to submit for publication.

IAS Scholars, Integral Ad Sciences, ***Data Engineering Intern*** June 2022 – August 2022

- Studied both the business and technical sides of IAS's Twitter brand safety project.
- Completed a full data profile of the relevant IAS Twitter data using complex SQL queries in Postgres.
- Used Agile Methodology to manage my group's project design and flow.

Computer Science Department, Williams College, ***Teaching Assistant*** Sept. 2022 – Present

- Serve as a TA for an introductory data structures course and a computer organization course.
- Host three weekly open help sessions for students to attend.

Williams Students Online (WSO), Williams College, ***Full Stack Developer*** Sept. 2023 – Present

- Working on developing admin tooling for maintaining Williams College Student Website

LEADERSHIP EXPERIENCE

- **Junior Advisor:** August 2023 - present
- **William Rugby:** Assistant Captain (2023) August 2021 - present
- **Williams Record:** Website Editor January 2024 - present
- **Williams Recovery of All Perishable Surplus:** Shift Leader August 2022 - present
- **Orientation (WOOLF) Leader:** August 2022 - May 2023