Layden Halcomb

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OBJECTIVE

Dual-degree Computer Science and Mathematics student passionate about artificial intelligence algorithmic design, and computational efficiency; I seek to contribute to graduate research or technical roles involving machine learning and complex systems.

EDUCATION

Drury University (Springfield, MO)

Bachelor of Science —Computer Science — Anticipated **May 2026**
Bachelor of Arts —Mathematics — Anticipated **May 2026**
GPA 3.96 | Dean's List

TECHNICAL PROJECTS

Weather App Development — **Fall 2023 - Spring 2024**

- Created weather applications with backend database connectivity, enhancing skills in application development

Technologies Used: React, Weather API, Typescript, JSON, SQL, HTML/CSS

KiiP (Key Income Investment Planner) App Development — **Fall 2024**

- Developed a Minimum Viable Product to keep track of financial spending on demand
- Honed software design principles
- Enhanced skills in API's, React, and Typescript

Technologies Used: React, Expo, SQL, Typescript ; Design Patterns (Singleton, Factory), Separation of Concerns

RESEARCH PROJECTS

ASL-to-Text Translation *(Independent Research)* — **Spring 2025**

- Developed a system to translate **American Sign Language** gestures into text using **CNNs, RNNs**, and early transformer architectures
- Reproduced results from published work
- Explored model limitations in spatial attention and generalization

Concepts Used: Transformers, CNN, RNN, Data key points

Large Language Model Implementation *(Independent Research)* — **Fall 2025**

- Collaborating with **Dr. Scott Simmons** to build a transformer-based **LLM from scratch**
- Guided by Sebastian Raschka's framework
- Investigating **efficiency tradeoffs** between mixture-of-experts and generative pretrained models to understand computational limitations

Technologies Used: Python, PyTorch, Matplotlib

Sudoku Solver — **Fall 2024**

- Implemented **Knuth's Dancing Links (DLX)** algorithm for efficient Sudoku solving
- Visualized in real time using Pygame
- Recreated solver in **C++** to enhance **execution speed and memory control**
- Strengthening low-level debugging and algorithmic optimization skills

Technologies Used: C++, Python, Pygame, CMake, GDB, VSCode

LEADERSHIP & EXPERIENCE

Teaching Assistant—Drury University **Spring 2024**

- Supported students in Python programming, data structures, and algorithmic concepts
- Assisted with lab sessions and grading
- Improving communication and mentorship abilities

Computer Science Tutor—Drury University **Fall 2024 - Present**

- Tutored students in C++ and Python, reinforcing algorithmic concepts, debugging, and best practices in introductory programming
- Improved communication, mentorship, and documentation skills

Kappa Mu Epsilon (KME – Math Honors Society) *President* **(2025-26)**

- Lead chapter meetings and organize events promoting collaboration and engagement in mathematics
- Work with officers to plan and implement new initiatives and campus activities.

Shift Leader, Panda Express **Feb 2021 – Present**

- Demonstrated strong leadership, communication, and conflict-resolution skills as Person in Charge (PIC), ensuring a safe and efficient work environment
- Trained and mentored new employees while maintaining high performance and attention to detail during long shifts and certified food safety operations

TECHNICAL SKILLS

Languages: C, C++, Python, Java, JavaScript, TypeScript, C#, HTML/CSS, SQL, Bash
Frameworks & Libraries: NumPy, Pandas, PyTorch, TensorFlow, scikit-learn, OpenGL, p5.js, Matplotlib, React
Tools & Environments: Git/GitHub, Linux/Unix, Visual Studio Code, CMake, Docker, LaTeX

AWARDS & HONORS

Dean's List (all semesters)
Academic Merit Scholarship Recipient
Kappa Mu Epsilon Mathematics Honor Society *(President)*

ORGANIZATIONS & ACTIVITIES

Drury Independent Game Studio (2022-present)
AMS/MMA Missouri State Collegiate Mathematical Contingent (2023 – 2026)
Kappa Mu Epsilon (KME – Math Honors Society) (2025-26)