Liam Swayne

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Education

Carnegie Mellon University (current) - B.S. in Computer Science *2024 - Present*

The Ohio State University (dual enrollment) - Coursework in Computer Science & Data Analytics *2022 - 2024*

Columbus State Community College (dual enrollment) - Coursework in Science *2020 - 2024*

Professional Experience

AI Model Trainer - DataAnnotation *June 2025 - Present*

- Created problem-solution pairings and complex challenges for the development of machine learning models
- Solved and graded quantitative and abstract reasoning problems

> **Creator of ChronoClientDB**
>
> Temporal, client-side database bit-packed and encoded as a single string.
>
> https://chronoclientdb.org ↗

AP Computer Science Tutor - Bay Coding Club *June 2025 - August 2025*

- Taught Java programming concepts to AP Computer Science students
- Developed new curriculum to enhance student learning outcomes
- Communicated with parents and students to ensure that progress exceeded expectations

AI Model Trainer - Remote Control Media *May 2025 - August 2025*

- Utilized SRT evaluation to aid development of machine learning models
- Managed timekeeping and project documentation, achieving leading output within a 10-person team
- Consistently delivered high-quality work, adapting to changing team availability and company needs

Backend Cloud Developer Intern - Beunec *May 2025 - June 2025*

- Integrated backend systems with a front-end React UI
- Utilized databases, object storage, and memory-safe server-less compute
- Worked with React.js, Node.js, Cloudflare, and SQLite databases

Software Development and Marketing Intern - MMG Design *June 2024 - August 2024*

- Developed reusable and dynamic web components for client projects
- Increased monthly YouTube views by over 400% and Instagram views by 40%
- Enhanced the brand's strong LinkedIn presence
- Led independent project management initiatives
- Collaborated directly with clients to implement complex content management and AI-driven automations

Skills

- JavaScript, Python, C, Java
- Full-stack web-app Development
- Machine learning with PyTorch
- Cloudflare (frontend and backend)
- AWS (frontend and backend)
- Git & **GitHub** ↗
- GitHub Actions and CI/CD
- AI automation
- Technical communication
- Compression and bit-packing techniques

- Google Workspace/Microsoft Office Suite
- Artificial intelligence APIs
- Database management (SQLite, D1, NoSQL)
- Transactions with Stripe API
- Project management
- LaTeX & Markdown
- **Teaching** ↗
- Automated web scraping and data analytics
- Data-oriented design

Technical Projects

Recursive Novel Generation with Python and AI (Featured in IGN ⤴)

- Developed Python scripts recursively expanding an outline to a book with calls to AI
- Demonstrated AI's capabilities in long-form narrative generation and complex context management

EduAuth ⤴ - Multi-factor Authentication Service

- Engineered a security-critical application leveraging AWS Lambda, DynamoDB, and IAM security policies
- Implemented multiple authentication methods including SMS, email, and authenticator app integration
- Created a customizable interface that adapts to client branding

Carbon Neutrality Calculator

- Engineered a system for optimizing carbon neutrality costs using discrete linear programming
- Implemented modular design principles for enhanced scalability and maintenance
- Developed comprehensive documentation and usage guidelines for future maintainers

Re ReadEase ⤴ - Affordable Dyslexia Reader

- Developed a simple, accessible dyslexia reading aid that can be created with just two sheets of paper
- Designed and implemented a modern landing page with smooth animations and responsive design
- Integrated Cloudflare Workers for download tracking and serverless functionality

FIRST Tech Challenge Engineering & Programming

- Applied programming skills to control robots in competitive driving challenges
- Collaborated with a team to design, build, and program a robot using languages such as Java or C++
- Utilized problem-solving skills and hands-on engineering to overcome technical challenges and optimize robot performance
- Engaged in in-person collaborative work, fostering teamwork and communication skills
- Utilized 3D printing to create custom parts for the robot

Digital Selling Toolchain

- Architected and implemented a comprehensive full-stack web application (25,000+ lines of code)
- Designed and managed complex SQLite database systems
- Implemented robust error handling and data validation mechanisms

Autonomous Web Archival Scripting and Virtual Machine Deployment

- Developed automated scripts to preserve at-risk web content through the Internet Archive API
- Implemented reliable GitHub Actions workflows for continuous monitoring and archival
- Created dozens of autonomous archives using bash scripting for efficient web preservation

Volunteer Experience

Volunteer Teaching Assistant - Daily Needs Assistance   *August 2022 - May 2023*

- Facilitated English language learning for immigrant students and parents in Dublin's neighboring districts
- Conducted small-group learning activities and provided individualized support
- Developed and adapted teaching materials for various age groups to maximize engagement

Project Lead - AMBER Alert Enhancement Initiative   *September 2021 - March 2022*

- Developed a prototype system integrating AMBER Alert messages with vehicle imagery
- Coordinated with industry professionals to evaluate and improve system effectiveness
- Created and presented comprehensive documentation for stakeholder review