

# Jalen Francis

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## EDUCATION

### The Ohio State University

*Honors B.S. in Computer Science & Engineering, B.S. Mathematics, 3.98 GPA*

Columbus, OH

*Aug. 2023 – Dec. 2026*

## RELEVANT COURSEWORK

**Software:** SW 1: Components (A), SW 2: Dev & Design (A), Proj: Interactive Sys (A)

**Systems:** Computer Org (A), Operating Sys (A), Digital Logic (A)

**Math:** Linear Algebra (A), Probability (A), Honors Analysis I (A-), Analysis 2 (A)

**Theory:** FNDS 1: Discrete Structures (A), FNDS 2: DS & Algorithms (A), Intro AI (A)

## TECHNICAL SKILLS

**Languages:** Java, Python, C/C++, SQL, JavaScript, HTML/CSS, MATLAB, x86-64

**Frameworks & Tools:** JUnit, Qt, TensorFlow, OpenCV, React, Git, React Native

**Concepts:** Machine Learning, Neural Networks, Blockchain, Parallel Processing

## EXPERIENCE

### Process Automation Engineering Intern

*Kroger Great Lakes Regional Distribution Center*

May 2025 – Present

*Delaware, OH*

- Optimized aisle-to-pallet ratios using ML models to improve order consolidation efficiency.
- Automated logistics data pipelines, reducing processing latency and manual effort.
- Supported automated warehouse systems to maintain uptime and resolve issues quickly.
- Analyzed operational bottlenecks and drove data-backed process improvements with cross-functional teams.

### Undergraduate Teaching Assistant

*The Ohio State University, Department of Engineering*

Aug. 2024 – Present

*Columbus, OH*

- TA for CSE 2221 (Software I), ENGR 1281H (FEH I), and ENGR 1282H (FEH II - Robotics): graded assignments, quizzes, and projects; held office hours to support students; and assisted in course development for ENGR 1282.01H via software and web teams.

## PROJECTS & COMPETITIONS

### Clubble – Event & Club Management | *React Native, Firebase, Lambda, Stripe, Cloudflare* Apr. 2025 – Present

- Built a cross-platform app for discovering and managing college events and clubs with live updates.
- Integrated Stripe for secure ticket payments supporting free and paid events.
- Deployed AWS Lambda + Wasabi to transcode and stream HLS videos; secured delivery with Cloudflare caching.
- Used Firebase for real-time data, auth, and cloud functions enabling scalable operations.

### QuantifiAI - Quantitative Trading System | *Python, PyTorch, Scikit-Learn, Pandas*

Mar. 2025

- Secured **2nd** place at SIAM2I and Nationwide-sponsored **Quantathon** with a multi-strategy system leveraging PyTorch and Random Forest for regime prediction, anomaly detection, and risk-adaptive allocation.

### SignifyAI - Real-Time ASL & Emotion Recognition | *Python, TensorFlow, OpenCV*

Feb. 2025

- Developed a real-time ASL fingerspelling and facial expression recognition system with a three-tier neural network
- Won **first** place at **HackAI 2025**, OSU's premier AI-focused hackathon.

### JShell - Custom Unix Shell | *C, Unix, Process Management*

Feb. 2025

- Developed a feature-rich Unix shell with command execution, I/O redirection, and job control.
- Implemented built-in commands, alias management, and intelligent tab completion.
- Designed optimized command parser with background process support and scripting capabilities.

### MakeOHI/O 11 - Automatic Pill Dispenser | *Microcontroller, 3D Printing, API, PostgreSQL*

Mar. 2025

- Developed a 3D-printed, automatic pill dispenser controlled via microcontroller and API; won **Most Original** for enabling prescription management through a mobile app linking patient and doctor portals.

## CLUBS & INVOLVEMENT

• Tau Beta Pi • AI Club - Tech Committee Member • SIAM2I - Quantathon Coordinator • OHI/O