

# Brady Wozniak

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## EDUCATION

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### Bachelor of Science, Computer Science

Expected Graduation: April 2027

Michigan State University – East Lansing, MI

- **Coursework:** Object Oriented Software Design, Computer Architecture, Computer Systems, Data Structures & Algorithms, Information Management & the Cloud, Linear Algebra, Statistics, Discrete Mathematics

## EXPERIENCE

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### MES Intern - Magna Intenational, Troy, MI

May 2025 – Aug 2025

- Architected backend automation services integrating Azure APIs and Runn API to streamline engineering workflows, improving productivity by 30%.

- Designed scalable API endpoints and integration tests supporting future AI/ML automation within MES infrastructure.

- Built event-driven automation pipelines with Node-RED and Flow Fuse, reducing manual ticket triage and bug resolution workloads by 40%

### Research Assistant - Michigan State University, East Lansing, MI

Feb 2024 - Current

- Assembled and trained an MLP-based autoencoder in PyTorch to reconstruct molecular structures with 99% accuracy.

- Refactored LLM training workflows into PyTorch Lightning, improving modularity and reducing experimental iteration time by 50%.

- Optimized data preprocessing (normalization and denoising) and collaborated with researchers to refine deep learning models for improved performance and accuracy.

## PROJECTS

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### LanguageExplorer (React, Vite, FastAPI, Python)

Jan 2026 – Feb 2026

- Designed and deployed a full-stack language parsing tool that converts user-defined regex tokens and grammar rules into interactive AST visualizations.

- Engineered dynamic grammar generation pipeline using Lark to construct ASTs from user-defined regex and context-free grammar rules.

- Constructed a responsive React + Vite frontend to render interactive tree structures and manage real-time parsing updates, deployed on Vercel.

### Carry Me (Python, MongoDB, Flask)

Jan 2025 – Feb 2025

- Implemented a custom risk-reward Elo matchmaking system using Python to balance competition across mixed skill levels.

- Built a scalable Flask + MongoDB backend and optimized query performance, reducing leaderboard update and stat retrieval latency by ~30%.

- Designed a ranking pipeline integrated with MongoDB for handling large competitive workloads efficiently.

### Educational Website (React, Flask, SQL)

June 2024 – Aug 2024

- Assembled a full-stack educational website for international students using React, Flask, and SQL, featuring user authentication, account management, and secure backend logic with database integration.

- Integrated social media APIs to expand platform engagement and used Git for version control to support collaboration and maintain a clean development history.

## SKILLS

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**Programming:** Python, C++, SQL, Java, JavaScript, Typescript

**Frameworks:** React, Flask, FastAPI

**ML / Data:** PyTorch, NumPy, Pandas

**Other:** Docker, Linux, Git, MongoDB, Azure, CMake