

Alexander Theis

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EDUCATION

The Ohio State University <i>Bachelor of Science in Computer Science & Engineering, Mathematics Minor</i> Relevant Coursework: Operating Systems, Data Structures & Algorithms, Web Dev, Networking, Databases, AI/ML	GPA - 3.71 August 2022 – December 2026
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EXPERIENCE

The Ohio State University <i>ML Research Assistant</i>	September 2024 - Present Columbus, OH
Nike <i>Cloud Security Intern</i>	May 2024 - August 2024 Atlanta, GA
<ul style="list-style-type: none">Built a PyTorch package for group-invariant embeddings, reducing geometric distortion and improving stability of downstream ML models.97% classification accuracy achieved on benchmark datasets with very limited training data by training ML models to learn template vectors that optimized max filter embeddings.600% accuracy improvement over CNN baselines on texture classification tasks, while matching CNN performance on ECG tasks with significantly lower data requirements.Integrated symmetry-aware representations with scikit-learn and PCA, accelerating dimensionality reduction and reducing training memory usage (LDA infeasible without PCA).Scaled pipelines to handle symmetry-influenced data (permutations, rotations), enabling more efficient orbit recovery and graph learning.	
The Ohio State University <i>SWE Research Assistant</i>	May 2023 – July 2023 Columbus, OH

PROJECTS

Economic Mobility Indicator — Code for Good <i>React, TypeScript, FastAPI, SQLite</i>	November 2025
<ul style="list-style-type: none">Built a full-stack web platform visualizing economic mobility across 10 Atlanta counties using several metrics.Implemented an economic mobility indicator with comparative insights to identify county-level areas for targeted improvement.Developed interactive visualizations and automated trend analysis to support data-driven decision-making for CareerRise.Collaborated with a 7-member team and JPMorgan Chase mentors to design system architecture, integrate backend pipelines, and deliver a functional prototype in 24 hours.	

TECHNICAL SKILLS

Languages: Java, Python, C, Ruby, JavaScript, SQL, Assembly, MATLAB, Kotlin, TypeScript, R, HTML/CSS, Verilog
Frameworks & Libraries: Bootstrap, Express.js, Flask, Ruby on Rails, Next.js, FastAPI, JUnit, Unittest
Development Tools: AWS (EC2, S3), Linux, Git, Jupyter, Docker, Kubernetes, WireShark, Cursor, Copilot
ML Tools: PyTorch (CUDA), Scikit-Learn, Numerical Methods, Dimensionality Reduction