

Alexander Minch

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EDUCATION

Indiana University | Bloomington, IN

Dec 2027

Accelerated M.S. in Intelligent Systems Engineering

- **Specialization:** Cyber-Physical Systems

Indiana University | Bloomington, IN

May 2027

B.S. in Computer Science — GPA: 3.7

- **Specialization:** Artificial Intelligence
- **Minors:** Data Science, Mathematics, Business

EXPERIENCE

Saama Technologies

June 2025 – August 2025

Software Engineering Intern

Remote

- Designed and implemented an AI-powered clinical protocol review system using LLM-based summarization pipelines, reducing manual document review time by **40–60%** and increasing throughput for clinical operations teams.
- Collaborated with senior engineers on code reviews, CI/CD workflows, and production deployment practices, contributing to higher code reliability and reduced regression frequency.

IU–Bloomington Bioinformatics Lab

September 2025 – Present

Undergraduate Researcher

Bloomington, IN

- Engineering a scalable end-to-end pipeline for single-cell RNA expression data (**30k+ genes, millions of cells**), implementing sparse matrix handling, normalization, and batch-effect correction to prepare datasets for high-performance model training. Achieved reconstruction loss on main task of **0.065**.
- Developing preprocessing and feature-engineering modules that reduce data loading and transformation time by **25–35%**, enabling more efficient experimentation on university HPC clusters.
- Collaborating with PhD researchers and faculty to evaluate model architectures for biological interpretability, contributing to methodological decisions in a cross-disciplinary team spanning CS, biology, and statistics.

PROJECTS

omegLOL.com 2026

- Built omegLOL, a real-time WebRTC multiplayer laugh-detection platform using client-side facial analysis, a Node.js signaling server, and a cloud-hosted Postgres/ELO ranking system, reaching 5,000+ users.

NCAA Data Analytics Competition 2026

- Used a hierarchical Bayesian strength model with conference-level partial pooling to estimate posterior seeding distributions. Placed 3rd out of all IU teams.

RELEVANT COURSEWORK

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|-----------------------|------------------------|
| • Calculus 3 | • Algorithmic Design |
| • Advanced Statistics | • Robotics Algorithms |
| • Data Structures | • Data Analysis/Mining |
| • Linear Algebra | • Machine Learning |
| • Information Systems | • Financial Management |

TECHNICAL SKILLS

Languages: Python, Java, Javascript, HTML, CSS, SQL, PHP

Frameworks: React, Django, TensorFlow, Pytorch, Scikit-learn, SwiftUI, Unity, Docker

Developer Tools: VSCode, IntelliJ, Xcode, GitHub, JUnit

Libraries: Numpy, Pandas, Matplotlib