Connor Woods

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EDUCATION

University of Michigan **Ann Arbor, MI**
Bachelor's of Science in Computer Engineering Expected: 2028

- **GPA:** 3.80
- **Coursework:** Discrete Mathematics, Programming and Intro to Data Structures (C++), Introduction to Electronic Circuits, Accelerated Introduction to Computers and Programming (MATLAB / C++)

WORK EXPERIENCE

St. Louis University Dept. of Computer Science - Jie Hou Lab **St. Louis, MO**
Research Assistant May 2025 – present

- Integrated code into GraphaRNA, a PyTorch Geometric GNN designed for predicting RNA 3D structures
- Migrated the model pipeline from small-sequence inputs that returned partial RNA fragments to using full-sequence and stem/ hairpin template inputs that generate complete RNA 3D structures
- Extended the dataset loader to read full and template PDBs and return aligned tensors (full, stem, hairpin) with consistent residue and atom indexing
- Fused sequence and structure embeddings for both the full and templates in the model, currently designing a new loss model and testing new training data
- Ran training on an HPC GPU node by activating dedicated Conda envs and exporting CUDA runtime paths to pin a compatible cuDNN with PyTorch + PyG, ensuring the correct CUDA toolchain across shared system libraries

Arch Grants **St. Louis, MO**
Intern May 2024

- Conducted in-depth research on emerging startups in Geospatial and Manufacturing sectors, identifying high-potential candidates for investment and support
- Supported the annual Arch Grants startup competition by performing comprehensive background checks on potential judges to ensure credibility
- Enhanced a St. Louis startup ecosystem map by identifying and mapping additional startups and accelerators

PROJECTS

Michigan Mars Rover **Ann Arbor, MI**
Member Aug. 2025 – present

- Programmed STM32 microcontrollers in C/C++ to generate PWM signals and configure peripherals for motor control
- Implemented and debugged CAN and I^2C communication protocols for reliable subsystem integration
- Working on embedded firmware design to improve rover control, diagnostics, and signal efficiency using CubeIDE

Michigan Hackers **Ann Arbor, MI**
Member Sept. 2024 – present

- Collaborated with fellow students to develop an internship application tracker
- Built reusable React/TypeScript components (buttons, cards, inputs, labels) and implemented login/signup authentication pages for the platform
- Designed and coded the leaderboard page, integrating with Supabase to dynamically display total users, application counts, and success/rejection/pending rates
- Applied Tailwind CSS for responsive UI design and optimized components for scalability and maintainability

Inspirit AI Research Mentorship **St. Louis, MO**
Researcher Aug. 2023 – May 2024

- Conducted a comparative analysis on the necessity of private financial data versus public datasets for accurate portfolio return prediction, utilizing machine learning models
- Designed and implemented LSTM-based neural networks to assess predictive accuracy and explore financial data quality effects on stock performance forecasting
- Collaborated with a mentor from the University of Pennsylvania to refine modeling approaches and research methods, and to author a research paper presenting the findings

SKILLS

Programming Languages: Python, C++, MATLAB, Java, HTML, CSS
Frameworks: React, Next.js, PyTorch, TensorFlow, CUDA