Austin Lovell

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Education

- **Purdue University: M.S. in Computer Science** — West Lafayette, IN
  GPA: 4.00/4.00 — *Aug 2025 - May 2027*
- **Purdue University: B.S. in Computer Science** — West Lafayette, IN
  GPA: 3.83/4.00 — *Aug 2021 - Dec 2024*
- **Coursework**: Deep Learning, Data Mining and Machine Learning, Software Engineering, Artificial Intelligence, Systems Programming, Data Structures and Algorithms, Object-Oriented Programming, Computer Architecture, Linear Algebra

Experience

- **Pacific Northwest National Laboratory** — Richland, WA
  Software Engineering Intern — *May 2025 - Aug 2025*
  - Created software deployment pipelines with automated Python profiling using Docker and GitLab CICD
  - Assisted researchers in configuring and running LLM interpretability projects using NNSight and PyTorch
  - Automated OS installation and environment configuration for HPC nodes using Ansible
- **Summer Undergraduate Research Fellowship** — Purdue University
  Research Fellowship — *May 2024 - Aug 2024*
  - Developed a hierarchical deep neural network with PyTorch to predict job queue times on Anvil, a Top 500 supercomputer
  - First authored and presented a research paper at SC24, the largest HPC conference
  - Paper: A Hierarchical Deep Learning Approach for Predicting Job Queue Times in HPC Systems
- **Indigo BioAutomation** — Carmel, IN
  Software Engineering Intern — *May 2023 - Aug 2023*
  - Developed an interactive visualizer for liquid chromatrography/mass spectromery experiment data in Python and C++
  - Optimized memory usage of experiment data during processing using C++ and Protobuf
  - Designed a method to model composite baselines for chromatograms using XGBoost's gradient boosting algorithm
- **Matrix Design Group** — Newburgh, IN
  Software Engineering Intern — *May 2022 - Aug 2022*
  - Trained a safety-focused computer vision objection detection model for embedded devices using Python and TensorFlow
  - Designed a database with Python and SQLite for storing the results of Factory Acceptance Testing
  - Developed software for automatically analyzing network traffic using Wireshark and Lua

Research

- **Undergraduate Research** — Purdue University
  Researcher — *Sep 2023 - May 2025*
  - Researched and implemented computer vision methods using PyTorch to track human facial movements during speech for improved diagnosis of sensorimotor issues. Achieved sub 1 millimeter error tracking accuracy with novel methods. Advised by Prof. Raymond Yeh and Prof. Kwang S. Kim at Purdue University
  - Paper Preprint: 3D markerless tracking of speech movements with submillimeter accuracy

Academic Projects

- **Undergraduate Teaching Assistant** — Purdue University
  Teaching Assistant — *Aug 2023 - May 2024*
  - Advised students and answered questions in weekly lab sections for a C++ based systems programming course
  - Evaluated code standards and graded exams for over 2,000 student submissions

Skills Summary

- **Languages**: Python, C, C++, SQL, Java, JavaScript, Lua, Bash
- **Tools**: Linux, Git, PyTorch, TensorFlow, NumPy, pandas, Ansible, SQLAlchemy, MongoDB, Docker, Lex, Yacc, LaTeX

Honors and Awards

- **Purdue University**: Department of Computer Science Kunze Scholarship award winner (2024)
- **Purdue University**: Selected for Summer Undergraduate Research Fellowship (2024)
- **Purdue University**: Department of Computer Science "Outstanding Freshman" award winner (2021-2022)