Christopher Lee

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Education

Purdue University West Lafayette, Indiana

Bachelor of Science in Computer Science *May 2026*

- **Coursework:** Data Structures and Algorithms, Analysis of Algorithms, Artificial Intelligence, Systems Programming, C Programming, Object-Oriented Programming, Computer Architecture
- **Awards:** First Place at Purdue University Hello World Hackathon, Dean's List, Semester Honors

Experience

Software Engineer Intern May 2025 – Present

Siemens Digital Industries Software *Fremont, California*

Data Science Researcher Aug 2024 – May 2025

Sandia National Laboratories - Purdue Data Mine *West Lafayette, Indiana*

- Built a machine learning model in Python to predict the destination of flights from partial geospatial trajectory data.
- Automated data preprocessing and evaluation processes, leveraging Pandas for data manipulation, Tracktable for geospatial analysis, and Matplotlib for creating graphs of accuracy trends, reducing end-to-end testing time by 25%.
- Evaluated 1.9 million flight trajectories while designing and implementing 30 test cases to benchmark model performance across multiple dimensions, achieving a 17.7% improvement in model prediction accuracy.
- Presented project at the 2025 Purdue Data Mine Corporate Partners Symposium.

Undergraduate Student Researcher Jan 2024 – May 2024

Purdue Vertically Integrated Projects *West Lafayette, Indiana*

- Developed a FCNN using Python and NumPy with Professor Edward Delp to recognize traffic signs in real-time.
- Achieved a 96% classification accuracy by optimizing forward and backward propagation techniques and implementing advanced preprocessing, including mean filtering and Sobel edge detection.
- Integrated the trained model into an Android application by leveraging Python's Pickle library and a backend server.
- Presented research and project at the 2024 Purdue Undergraduate Research Conference to 20+ faculty and staff.

Software Engineer Jan 2024 – May 2024

Purdue University College of Engineering *West Lafayette, Indiana*

- Designed and launched a cross-platform language-learning app using React Native and Expo.
- Optimized database performance by implementing advanced indexing strategies in SQLite, reducing query response times by 20%, and streamlining data processing using Python scripts to load and manage JSON-based data.
- Conducted robust testing and improved existing documentation of the app to support ongoing development and maintenance.

Projects

SkySync | *Swift, XCode, iOS App Development, Git*

- Created an iOS mobile application enabling Wi-Fi-free communication via Bluetooth with a range of 250+ feet.
- Cut message delivery speed by 2+ seconds using Apple's Core Bluetooth framework for efficient data transmission.
- Project awarded first place out of 300+ participants at the Purdue Hello World Hackathon.

Nova | *Flutter, Dart, APIs, LLM Integration, Google Cloud, Mobile App Development*

- Developed an AI voice assistant in Flutter with Google Authentication, integrating a task automation system using Modal for LLM-driven function calls and seamless API connections with Google Calendar and Google Tasks.
- Engineered real-time AI voice synthesis using Cartesia for natural text-to-speech conversion, reducing response latency by 250 ms and utilized Google Cloud for scalable backend processing.

Technical Skills

Languages: C, C++, Java, Python, Swift, R, x86-64 Assembly, JavaScript, HTML/CSS
Technologies: Linux, Shell Scripting, APIs, MySQL, Android/iOS SDK, React, Node.js, Git, JUnit Testing
Expertise: Machine Learning, Artificial Intelligence, Neural Networks, Systems Programming, App Development