Brett Piggott

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Education

Bachelor of Science in Computer Science, Specialization in AI — **Rochester, MI**
Oakland University, School of Engineering and Computer Science — *Expected Graduation: May 2026*
Cumulative GPA: 3.79

Bachelor of Science in Mathematics — **Rochester, MI**
Oakland University, College of Arts and Sciences — *Expected Graduation: May 2026*

Awards & Achievements: Honors College, Platinum Presidential Scholar Award, President's List Award

Relevant Coursework: Object-Oriented Computing, Computer Networks, C Programming and Linux, Data Structures, Security and Privacy in Computing, Database Design and Implementation, Software Engineering and Practice, Design and Analysis of Algorithms, Linear Algebra, Calculus II, Discrete Mathematics, Applied Probability and Statistics

Skills

Programming Languages: Python, Java, C#, C, Linux

Applied Machine Learning: Fine-tuning models, dataset creation, implementation of machine learning pipelines, PyTorch, TensorFlow, pandas, NumPy, Hugging Face Transformers

Tools & Software: Git, GitHub, Docker, Visual Studio Code, Linux Command Line, Matplotlib

Soft Skills: Collaboration, research communication, leadership, problem-solving, and adaptability

Experience

Research Assistant — **Rochester, MI**
Oakland University — *Dec 2022 – Apr 2025*
Conducting research in the Department of Engineering and Computer Science, focusing on AI-driven cybersecurity and UAV communication systems. Key achievements include:
- Fine-tuned machine learning models and curated datasets to enhance cybersecurity and secure UAV communication.
- Collaborated closely with team members to implement fine-tuning techniques and optimize data workflows for improved model performance.

Computer Science Grader — **Rochester, MI**
Oakland University — *Jan 2024 – May 2024*
Graded assignments for the Design and Analysis of Algorithms course. Key contributions include:
- Provided detailed feedback on assignments to enhance student understanding and learning.
- Created code-based assignments to teach practical algorithm implementation.

Conference Presentation

Michigan Space Grant Consortium, NASA, 2024 — **Ann Arbor, MI**
Presenter — *Oct 2024*
Presented *Enhancing Efficiency and Security of Unmanned Aerial Vehicles with AI and Large Language Models* at a grant-supported conference, focusing on UAV security and efficiency improvements.

Projects & Publications

Aero-LLM: A Distributed Framework for Secure UAV Communication and Intelligent Decision-Making — **IEEE ICCCN 2024**
Co-Author — *Dec 2023 – Mar 2024*
Collaborated on a multi-model agent identifying security risks across data types, with a focus on data creation and fine-tuning techniques for enhanced model accuracy.

Net-GPT: A LLM-Empowered Man-in-the-Middle Chatbot for UAV — **IEEE-SEC-EdgeSP-2023**
First Author — *Jun 2023 – Dec 2023*
First-authored a paper on a chatbot that interprets network protocols, establishing groundwork for a Man-in-the-Middle-capable LLM. Developed datasets, implemented fine-tuning to improve model accuracy, and performed comprehensive accuracy analyses to validate performance.

Heterogeneous Generative Dataset for UASes — **IEEE-MOSEC-2023**
Co-Author — *Jan 2023 – Jul 2023*
Created a dataset for LLM training using data from digital twins, fuzzers, and physical UAVs, supporting enhanced cybersecurity threat detection.

Fitness Application
Co-Developer — *Sep 2024 – Nov 2024*
Co-developed a fitness application using Python, JavaScript, HTML, CSS, and SQL to create, log, and share custom fitness workouts. The app includes features for users to track progress and connect with others.