

Andrew Mack

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DoD Secret Clearance

EDUCATION

The Ohio State University

May 2027

B.S. in Computer Science and Engineering

GPA: 3.98

Coursework: Algorithms, Data Structures, Operating Systems, Distributed Systems, AI/ML, Compilers, Computer Architecture, Networking, Software Development & Design, Probability & Statistics

EXPERIENCE

Oracle

May 2026 – August 2026

Software Engineering Intern

Redwood City, CA

- Developed an AI agent for Oracle's Exadata Database (used by **Apple, Bank of America, and AT&T**), capable of live migrating workloads during upgrades, reducing upgrade duration by **30%** and compute-capacity loss by up to **25%**
- Architected a reusable AI-native infrastructure automation platform using **FastAPI**, **FastMCP**, and asynchronous Python services, exposing VM inventory, live migration, and infrastructure operations through REST APIs and Model Context Protocol tools
- Developed Exadata Management services through reusable APIs, wrapping low-level **virsh** and **QEMU** operations for fleet management

J.F. Taylor

May 2025 – August 2025

Software Engineering Intern

Dayton, OH

- Reduced manual testing by **80%** by designing and implementing a **JSON**-based regression testing framework for the F-35 simulation, utilizing a locally hosted LLM to automate **100+** tests
- Developed **C++** features for MANTIS, an unclassified F-35 mission simulation platform, using the MIXR real-time simulation framework to model aircraft behavior and mission scenarios in collaboration with fighter pilots
- Proposed and led the migration of the codebase from Premake to CMake, improving build speeds by **40%** and enabling multi-OS compatibility

Buckeye Vertical

September 2024 – Present

Flight Software Team Lead

Columbus, OH

- Architected and optimized flight software for an autonomous drone using **ROS 2** and **PX4 Autopilot**
- Implemented control algorithms in C++ to improve flight smoothness and navigation accuracy, reducing flight path overshoot by **40%**

Kyoto University of Advanced Science

January 2026 – April 2026

Engineering Research Assistant

Kyoto, Japan

- Engineered a Python framework for Yaskawa GA700 motor-drive control, exposing Modbus RTU operations through reusable hardware APIs
- Automated RS-485 laboratory testing with programmable control, parameter sweeps, and structured telemetry collection to improve lab safety

PROJECTS

GPU-Accelerated LLM Inference Engine | C++, CUDA, Python, PyTorch

- Built a GPU-accelerated inference server for open-weight language models on an NVIDIA RTX 4070 SUPER, implementing concurrent request handling and dynamic batching to optimize throughput and latency
- Implemented and profiled custom CUDA kernels for transformer operations, optimizing thread organization and GPU memory access while benchmarking performance against PyTorch implementations

Agentic Portfolio Advisor | AWS (Lambda, DynamoDB), Python, Terraform, Charles Schwab API, ChatGPT API

- Built a cloud-native portfolio intelligence platform integrating Charles Schwab APIs, financial data, and an LLM to automate daily portfolio analysis and reporting
- Developed an agent workflow that synthesized quantitative analytics, SEC filings, earnings, and financial news into explainable investment recommendations

SKILLS

- Languages:** Python, Java, C, C++, HTML, CSS
- Technologies:** Git, Linux, OpenAI Codex, AWS, Terraform, CUDA, JUnit, pytest, Integration Testing