LAITH ASSAF

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EDUCATION

Michigan State University, College of Engineering　　　　　　　　East Lansing, MI
BS Computer Science, AI/ML | Dean's List　　　　　　　　　　August 2022 - December 2027
- **Relevant Coursework**: Algorithms & Data Structures (CSE 331), Information Management & Cloud Computing (CSE 380), Computer Organization & Architecture (CSE 320)

TECHNOLOGY SKILLS

Languages: Python, C++, C#, SQL, TypeScript
AI/ML: PyTorch, TensorFlow, OpenAI API, ML-Agents, YAMNet, OpenCV, Ollama
Web & Mobile: FastAPI, Flask, React, REST APIs, WebSockets, Firebase, Supabase
Infrastructure & Tools: Unity, Git, Linux, Docker, SSH, AsyncIO, Streamlit

PROJECTS

SoundSense - Real-Time Audio Classification | *YAMNet, WebSocket* | **MHacks Winner**　　October 2024
- **Won at MHacks 2025** (300+ participants, 24-hour hackathon) building real-time **audio classification system** using **YAMNet CNN model** on **MemryX MXA2301 edge accelerators**, achieving **95% accuracy** with <50ms **inference latency** across 521 AudioSet event classes for hearing-impaired users
- Architected **Flask backend** with **WebSocket streaming** for live hazard detection (emergency sirens, fire alarms, breaking glass), processing continuous audio streams with real-time classification updates and visual alerts delivered to web interface

Nexus - AI Server Management System | *FastAPI, GPT Models, SSH, AsyncIO*　　　　　September 2024
- Architected web-based **SSH terminal platform** using **FastAPI backend**, **WebSocket streaming**, and **AsyncSSH library** for remote server management, achieving sub-10ms response latency through **Python asyncio** with real-time command output and session persistence across 5-server infrastructure
- Reduced daily server administration time by 70% (30min → 9min) by automating routine tasks and providing instant command execution, eliminating manual SSH connection overhead and enabling concurrent multi-server management through unified web interface

EXPERIENCE

IT and Media Services Support Associate　　　　　　　　　　　　May 2023 - Present
MSU College of Osteopathic Medicine　　　　　　　　　　　　　　East Lansing, MI
- Configured and maintained 100+ **classroom technology systems** (projectors, audio systems, video conferencing) across 4 locations supporting 1,200+ students, resolving 50-70 **technical tickets** weekly with 5-10 minute average **response time**
- Engineered systematic **troubleshooting framework** achieving 99.5% classroom uptime and preventing $50K annual losses through diagnostic methodology, resolving **network connectivity**, **display output**, **audio routing**, and **Zoom conferencing** issues within 5-minute SLA

EXTRACURRICULAR ACTIVITIES

AI Club - Workshop Coordinator & Project Lead　　　　　　　　January 2024 - Present
Michigan State University　　　　　　　　　　　　　　　　　　East Lansing, MI
- Developed and delivered 8+ technical workshops on **local LLM deployment** (**Ollama**, **LM Studio**), **AI ethics**, and **ML fundamentals** (**PyTorch**) to 500+ attendees across 15 sessions, achieving 90% retention and 4.8/5 satisfaction score
- Led 4-student team building **Academic Performance Predictor** using **GPT-4 API** and **prompt engineering**, achieving **80% prediction accuracy** across 50+ course combinations. Architected **Python backend** with **OpenAI API integration** and implemented **agile sprints**, delivering production application in 4 months

Hackathon Participant　　　　　　　　　　　　　　　　　September 2024 - Present
Various Competitions　　　　　　　　　　　　　　　　　　　　　　Michigan
- Competed in 5+ hackathons including **MHacks 2025** and **SpartaHack 10**, leading teams of 1-4 in rapid prototyping. Architected full-stack applications (language.plusplus with **React**/**Firebase**, FusionFeast with **TypeScript**) delivering production-ready MVPs within 24-48 hours