

Amr El Mantawi

amr.mantawi@gmail.com • (717) 439-5515 • <https://amrmantawi.github.io/>
<https://www.linkedin.com/in/amrelmantawi/> • <https://github.com/AmrMantawi>

Computer Engineering junior in Penn State's Schreyer Honors Program with a minor in physics, skilled in C/C++, Python, and Verilog. Actively utilizing graph neural networks at APUS Lab and proficient in systems programming, machine learning, and embedded programming.

Education

Penn State University

BS, Computer Engineering. GPA: 3.75
Minor, Physics
Schreyer's Honors Program

University Park, PA
Aug 2021 - May 2025

Work Experience

Research Assistant, APUS Lab

Aug 2023 - Present

- Applied graph neural networks to model and optimize complex physics systems in collaboration with the "Geometric Deep Learning for Dynamics on Graphs" group.

Computer Engineering Learning Assistant, Penn State

Aug 2023 - Present

- Assisted students in understanding CPU architecture and FPGA design concepts.

Engineering Intern, Penn Dot

May 2023 - July 2023

- Collected and analyzed data for PennDOT's Roadway Management System.

Projects

FPS Multiplayer Game

Jan 2022 - Present

- Developed a multiplayer game using Unreal Engine and C++, applying knowledge of data structures, algorithms, networking, and object-oriented programming.
- Implemented peer-to-peer networking via Epic Online Services for seamless player connections and enhanced multiplayer experiences.

Retro Gaming Console

Aug 2022 - Present

- Designed and built a mobile arcade using a Raspberry Pi and Python, applying knowledge of electronics, embedded programming, and hardware design principles.
- Implemented an I2S signal to output sound from the Raspberry Pi, enabling the arcade to produce high-quality audio output.

MDADM Memory Manager

Jan 2023 - May 2023

- Created a memory manager program in C, applying knowledge of memory handling, networking, and systems programming.
- Implemented networking support, allowing users to connect to a remote JBOD server and send and receive packets.
- Integrated a cache system within the memory manager, leading to substantial speed improvements by reducing memory access latency.

Activities & Awards

- Autonomous Vehicle Team, Object Detection Team 2023-Present
- IEEE, Member 2021-Present
- ACM, Member 2021-Present
- Dean's List, Recipient 2021-Present
- Coding Club, Vice President 2021-2023

Skills & Interests

- Technical:** C, C++, C#, Assembly, Java, JavaScript, Python, Linux, SQL, Verilog, Shell Scripting, TensorFlow, Git, Machine Learning, FPGA design, Object-Oriented Programming, Debugging, Systems Programming
- Soft Skills:** Teamwork, Adaptability, Critical thinking, Leadership
- Tools:** GitHub, Visual Studio, SolidWorks, Unreal Engine, Multisim, MaxPlus II, Microsoft Office
- Language:** English, Arabic
- Interests:** Gaming, Drawing, Baking, Building Circuits, Coding