SHAWN HAGLER

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🎓 EDUCATION

Georgia Institute of Technology   ☐ Aug 2024 - Dec 2026
M.S. Computer Science

Florida State University   ☐ Jun 2020 - May 2024
B.S. Computer Engineering

👥 WORK EXPERIENCE

Software Engineer   ☐ May 2022 - Present
Naval Surface Warfare Center   📍 *Panama City, FL*

- Developed C++, C#, and Qt solutions for critical government projects, enhancing system security and reliability.
- Optimized critical software components, resulting in a 60% improvement in overall system performance.
- Engineered automated testing suite, enhancing code quality and reducing deployment issues.

Research Intern   ☐ Sep 2021 - Dec 2021
Naval Air Warfare Center   📍 *Remote*

- Analyzed Naval technologies and contributed insights to R&D initiatives during seminars.

👤 PROJECTS

NEXUS: Neural Execution and Understanding System *Python, PyTorch*   ☐ Jun 2023 - May 2024

- Led software engineering in a two-person team fine-tuning an LLM to synthesize task-specific programs.
- Developed PyTorch-based training pipeline, optimizing model performance and training time.
- Created AI virtual assistant for autonomous code generation and execution across tasks.
- Presented project findings at the Florida State University Research Symposium, securing 2nd place.

Helix *Rust, PostgreSQL, Docker, Python*   ☐ Jan 2023 - May 2023

- Architected a high-performance trading engine in Rust, processing 100,000+ transactions per second.
- Engineered ML trading strategies using ARIMA and gradient boosting, improving portfolio performance.
- Designed modular plugin system for rapid strategy deployment and real-time market analysis.

Detour Hook *C++, x86 Assembly*   ☐ Aug 2022 - Dec 2022

- Led a team in developing function-detouring mechanism for Battlefield 1942, expanding gameplay.
- Reverse-engineered game code, mapping systems and identifying key functions for modification.
- Successfully reverse-engineered the game's anti-cheat system and incorporated a bypassing mechanism.

KRACK Attack *Python*   ☐ Aug 2022 - Dec 2022

- Led a two-person team to adapt methods detailed in the Key Reinstallation Attack (KRACK) research paper.
- Exploited WPA2 protocol vulnerabilities, demonstrating wireless network security risks.

ⓘ TECHNICAL SKILLS

Programming Languages: C, C++, x86/x64 & ARM Assembly, Rust, Python, C#, Java, VHDL
Frameworks & Libraries: Qt, PyTorch, Tensorflow
Tools & Technologies: Linux, Windows, Valgrind, MATLAB, MultiSim, SQL, IDA, Xilinx Vivado

🏅 AWARDS/LEADERSHIP

2024	**2nd Place**	Florida State University Research Symposium
2022 - 2024	**Presidents List**	Florida State University
2021 - 2024	**Member**	Society of American Military Engineers (SAME)
2021 - 2023	**Lead Software Developer**	Florida State University SPEAR Robotics
2021	**Top 10 Placement (200+ Participants)**	FSU Competitive Programming Competition