Omar Rashwan

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EXPERIENCE

Intel — GPU Software Engineer May 2026 – present

- Restored Observation Architecture (OA) performance metrics on Xe2+ GPUs after hardware changes broke counter reporting, re-enabling Vulkan performance queries and GPU counter capture in tools like RenderDoc
- Profiled graphics workloads to identify GPU/driver bottlenecks and inform performance optimizations
- Diagnosed and fixed bugs in ANV, Intel's open-source Vulkan driver in Mesa

GE Vernova — Software Engineer Jun 2024 – May 2026

- Designed and deployed a gRPC-based service to modernize a legacy 32-bit C API, enabling language-agnostic and 64-bit consumption across multiple internal clients
- Led the centralization of CI/CD pipelines using GitHub Actions, improving build reliability and resource utilization
- Migrated multiple production GUI applications from a deprecated XVT framework to MFC, reducing technical debt and unblocking future feature development
- Built and deployed a Microsoft Teams bot to surface build health, failures, and critical code changes, improving developer feedback loops
- Contributed to the migration of a large C/C++ codebase from 32-bit to 64-bit, addressing memory model and compatibility issues in production systems
- Developed Go microservices on Kubernetes for a greenfield SCADA platform

General Electric — Software Engineer Intern May 2023 – Dec 2023

- Created a Windows service that profiles system for OS info, installed products, and product versions on SCADA nodes
- Implemented interprocess communication between above service and existing interop service to allow remote access
- Authored design documents for various modules in Confluence, along with test cases included for quality assurance
- Kicked off migration of software licensing suite from Windows to Linux for use in containerized deployments

Khoury College of Computer Sciences — Research Assistant Sep 2022 – Dec 2022

- Researched reconfiguration as a common operation in distributed systems with Dr. Ji-Yong Shin
- Formulated an approach to utilizing reconfiguration to derive a performance or resource utilization benefit in real time
- Modified the Raft consensus protocol in etcd, a distributed key-value store, to allow for splitting and merging clusters
- Compiled findings into a research showcase presentation and poster board, and final report with code documentation

AEVEX Aerospace — Software Engineer Intern May 2022 – Aug 2022

- Contributed to Sierra, a GIS rendering engine used to track wildfire perimeters for firefighting programs (e.g., FIRIS)
- Integrated an autonomous scanning module that performs area scans en route to a destination
- Implemented multithreaded coordination between scanning, proximity alert, and gimbal control modules
- Developed support for FLIR infrared scanners for use with human interface devices

Northeastern University — Graduate Teaching Assistant Jan 2022 – Apr 2024

- Taught Discrete Math, Data Structures & Algorithms, Computer Graphics, and Networking to classes of 100+ students
- Covered concepts such as boolean algebra, counting, discrete probability, inductive proofs, recursion, trees/graphs, operating systems, concurrency, and networking layers
- Reviewed, debugged, and gave feedback on thousands of lines of code on a weekly basis

SKILLS

Languages	C, Python, C++, Go, Java, Bash, GLSL, SQL, HTML
Tools	Git, Linux/Unix, GitHub Actions, Docker, Kubernetes, gRPC, OpenGL, Vulkan, Mesa, AWS, Make, CMake
Other	Computer Architecture, Operating Systems, Concurrency, Performance Profiling, Computer Graphics

EDUCATION

Northeastern University — M.S. Computer Science, 3.9 GPA 2024

- Khoury College of Computer Sciences
- Computer Systems, Networking, Graphics, Object-Oriented Design, Machine Learning, Distributed Systems

American University of Sharjah — B.S. Business Administration, Finance 2019

- Minor in Economics