Gent F. Semaj
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OBJECTIVE
Interested in researching low level systems & electronics architecture & design.

EDUCATION
The Ohio State University, Columbus, OH (2019 - 2023)
B.S. Computer Science and Engineering
Current GPA (4.00 scale): 3.816 (cumulative), 3.915 (department)
Coursework: Computer Architecture, Digital Logic, Computer Networking, Parallel Computing

TECHNICAL EXPERIENCE AND RESEARCH
Software Engineer: Microsoft Xbox (2023 - present)
- Writing drivers and services to facilitate efficient storage & transfer of game files
- Analyzing **Win32 kernel** API performance on various hardware
- Designing and implementing SDK APIs to strengthen the Xbox platform

Research Assistant: Ohio State Computer Security Laboratory (2022 - 2023)
- Wrote an undergraduate thesis investigating issues in **Bluetooth** device security

Software Engineering Intern: Microsoft Xbox (2022)
- Helped maintain and added functionality to the Xbox operating system written in **C++**
- Worked with a PM intern to design new options for game content downloads and updates

Explore (SWE + PM) Intern: Microsoft Cloud + AI Business Analytics Group (2021)
- As a team of interns, designed, developed, and tested a web-based customer service experience
- Developed complete planning & technical specification documents w/ help from FTEs + PMs

Research Assistant: Data Analysis at Center for Design + Manufacturing Excellence (2020 - 2021)
- Designed and developed scripts in **MATLAB & Python** to process and analyze large data sets
- Utilized **machine learning** techniques to detect mechanical defects in machined metal parts

PROJECTS AND COMPETITIONS
BuckeyeCTF (2021)
- Clinched first place in a team-based **cybersecurity** Capture-The-Flag event at Ohio State
- Worked with a team to solve challenges relating to **binary exploitation, reverse engineering, forensics, and cryptography** using tools such as **Python**, **Ghidra**, and **GNU/Linux**

OpenFusion: MMO Server Emulator (2020)
- Reverse-engineered the client for a popular old MMO through **IL decompilation**
- Wrote custom server emulator in **C++** to speak the client protocol and handle incoming packets

Ohio State Fundamentals of Engineering Nanotechnology Project (Team) (2019 - 2020)
- Designed a portable nanochip device to detect the presence of Celiac disease from a blood sample
- Constructed nanochip model and associated technical drawings using **SOLIDWORKS** CAD
- Documented design process & research, and wrote & submitted grant proposal for design

ACTIVITIES, EXTRACURRICULARS, AND SCHOLARSHIPS
- President of Ohio State Cyber Security Club (2021 - 2022)
- President of Kirtland High School Chess Club (2019)
- Hobbies include game development, 3D modeling, and aviation

References Upon Request