Lucas Busch

Ann Arbor, MI | 517-897-0878 | buschl@umich.edu | [LinkedIn](#)

EDUCATION

University of Michigan – College of Engineering — Ann Arbor, MI
Bachelor of Science in Engineering: Computer Science — *Expected May 2027*
- **Relevant Coursework:** Data Structures & Algorithms, Discrete Mathematics, Computer Organization

CERTIFICATIONS

CompTIA Network+ — Jul. 2025

TECHNICAL SKILLS

Languages: C++, C, Python, Java, SQL, HTML, ASP.NET
Cybersecurity Tools: Wazuh (SIEM/XDR), pfSense, Nmap, Metasploit, VirtualBox
Security Concepts: Network Security, Incident Detection, Threat Analysis, Log Analysis, MFA, MDM Policy, Vulnerability Assessment, Asset Management, Risk Management
Developer Tools: Git, GitHub

EXPERIENCE

Information Technology Support Intern — May 2024 – Aug. 2024
Franchino Mold and Engineering — *Lansing, MI*
- Enhanced network security and asset management by inventorying, renaming, and documenting over 60 network devices (switches, APs), enabling faster incident triage and vulnerability tracking.
- Strengthened organizational security posture by deploying and enforcing Multi-Factor Authentication (MFA) across 20+ critical user accounts and office devices.
- Researched and proposed Mobile Device Management (MDM) solutions to enforce security policies (e.g., strong passcodes, remote wipe) on corporate devices, directly contributing to data protection strategy.
- Gained hands-on network administration experience by analyzing switch configurations and firewall rules, contributing to improved network stability and security baselining.
- Optimized SQL database queries for an internal web application, improving data retrieval times for payroll specialists and documenting database functions for future security reviews.

PROJECTS

Cybersecurity Home Lab for Attack Detection & Analysis | *Personal Project* — Aug. 2025 – Present
- Architected and deployed a virtual cybersecurity lab in VirtualBox to simulate real-world enterprise network monitoring and defense scenarios.
- Configured a pfSense firewall to segment the network and control traffic between an attacker (Kali Linux), a victim (Metasploitable2), and a SIEM.
- Deployed and configured a Wazuh SIEM/XDR server to ingest, parse, and analyze logs from agents installed on network endpoints.
- Executed controlled network scans (Nmap) and exploits from the attacker VM to generate security events, validating the SIEM's detection and alerting capabilities in real-time.

Fabrication of Capacitive Pressure Sensors | *Rise of Wearable Electronics* — Jan. 2024 – Apr. 2024
- Designed and executed a systematic research plan to increase the sensitivity of a custom-fabricated capacitive pressure sensor, demonstrating a methodical engineering approach.
- Utilized precise lab fabrication techniques, including blade coating and water incorporation, to construct multiple sensor prototypes within a fixed project timeline.
- Led a team in presenting detailed written and verbal findings on sensor performance to faculty and peers, showcasing strong communication and documentation skills.

LEADERSHIP ACTIVITIES

Michigan Mars Rover | *Navigation Software Sub-Team Member* — Jan. 2024 – Present
Michigan Triathlon Club | *General Member* — Aug. 2023 – Present
Michigan Men's Ultimate Frisbee Club | *Social Media Manager* — Aug. 2024 – Present