

Lucas Busch

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EDUCATION

University of Michigan – College of Engineering

Bachelor of Science in Engineering: Computer Science

Ann Arbor, MI

Expected May 2027

- **Relevant Coursework:** Data Structures & Algorithms, Introduction to Computer Security

PROJECTS

AI-Powered Phishing Email Detector | *Python, Scikit-learn, NLTK*

Aug. 2025 – Present

- Developing a machine learning application in Python to classify emails as malicious or legitimate, building a practical tool for cybersecurity analysis.
- Implemented a data pipeline using NLTK/TF-IDF for feature extraction and trained a modular Logistic Regression model for classification.
- Built an interactive command-line interface to allow users to input email text and receive real-time predictions with associated confidence scores.

Cybersecurity Home Lab for Attack Detection | *Wazuh, pfSense, VirtualBox*

Aug. 2025 – Present

- Architected a virtualized enterprise lab in VirtualBox, configuring a pfSense firewall for network segmentation and deploying a Wazuh SIEM for log analysis.
- Executed controlled attacks (Nmap scans, Metasploit exploits) from a Kali Linux VM to validate the SIEM's detection and real-time alerting capabilities.
- Authored a detailed lab journal documenting the entire architecture, build process, and configuration, demonstrating strong technical writing skills.

EXPERIENCE

Tech Help Consultant

Aug. 2025 – Present

University of Michigan Information Technology Services

Ann Arbor, MI

- Provided in-person and remote technical support to faculty, staff, and students, resolving diverse hardware, software, and university service issues.
- Diagnosed and resolved issues on Windows/macOS systems via system re-imaging, printer maintenance, and equipment repair.
- Maintained security of campus computing sites by monitoring for unauthorized access and managed key IT services, including the laptop loaner program.

Information Technology Support Intern

May 2024 – Aug. 2024

Franchino Mold and Engineering

Lansing, MI

- Improved network security by inventorying and documenting 60+ network devices (switches, APs) to accelerate incident triage and vulnerability tracking.
- Strengthened security posture by deploying and enforcing Multi-Factor Authentication (MFA) across 20+ critical user accounts and corporate devices.
- Analyzed firewall rules and researched Mobile Device Management (MDM) solutions to contribute directly to network security and data protection strategy.

CERTIFICATIONS

CompTIA Security+

Aug. 2025

Validates core cybersecurity knowledge in threat analysis, risk management, and incident response.

CompTIA Network+

Jul. 2025

Demonstrates proficiency in network protocols, infrastructure, security, and troubleshooting.

TECHNICAL SKILLS

Languages: C++, C, Python, Java, SQL

Tools: Wazuh (SIEM/XDR), pfSense, Nmap, Metasploit, VirtualBox, Git, GitHub, VS Code

OS & Networking: Linux, Windows, TCP/IP, DNS, DHCP, Subnetting, OSI Model

Security Concepts: Incident Response, Vulnerability Assessment, Network Security, MFA, MDM Policy

LEADERSHIP & ACTIVITIES

WolvSec | *General Member*

Aug. 2025 – Present

Michigan Men's Ultimate Frisbee Club | *Social Media Manager and Historian*

Aug. 2024 – Present