

MARK G. JACHURA

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EDUCATION

Villanova University, Villanova, PA

Expected May 2028

M.S., Software Engineering

Current Coursework: Programming in Machine Learning, Software Project Management

The Pennsylvania State University, Abington, PA

May 2026

B.S., Cybersecurity Analytics & Operations (Application Development)

Minor: Information Sciences & Technology | **Academic Certificates:** National Security Agency, Security and Risk Analysis

GPA: 3.95 | **Honors:** Magna Cum Laude; PSU Outstanding Scholarship, Phi Kappa Phi

TECHNICAL SKILLS

Python, Java, Go, SQL, Bash | Git, Docker, AWS, MongoDB, Oracle APEX, Eve, pandas, scikit-learn | Linux, Windows, Active Directory, Cisco Meraki | Wireshark, Nmap, Burp Suite | Autopsy, Volatility, FTK | Splunk, Microsoft Sentinel, CrowdStrike

EXPERIENCE

Hopewell Valley Regional School District, Pennington, NJ

June 2026 - Present

Level I IT Technician (Part-Time)

- Administer user access in Active Directory, updating group memberships, granting and removing access, resolving account errors, and resetting passwords.
- Investigate escalated tickets, recurring application crashes, and hardware malfunctions; troubleshoot connectivity using Cisco Meraki and on-site diagnostics, documenting work in IncidentIQ.
- Prepared approximately 1,000 student Chromebooks for deployment through automated district Google enrollment; diagnosed and repaired Chromebook hardware issues.

The Pennsylvania State University, Abington, PA

January 2023 - May 2026

Lead Information Science Technology Lab Technician

- Researched hardware, software, operating systems, databases, and service requirements to translate faculty-proposed capstone concepts into technical implementation plans.
- Built a Raspberry Pi cluster for server workloads and JSON data exchange; collaborated with university IT to connect it to a dedicated IoT/project VLAN.
- Configured a cybersecurity lab with three Windows target machines and three Kali Linux attack machines on a separate, segmented network for security exercises.
- Supported student IoT and robotics capstones through hardware integration, technical troubleshooting, and tutoring; trained four additional lab technicians.

Machine Learning Security Intern

January 2025 - May 2025

- Independently developed a Python-based phishing detection lab for a Penn State professor; incorporated into the SRA 111 curriculum.
- Implemented email preprocessing, labeled dataset preparation, and TF-IDF-based Naive Bayes classification using pandas and scikit-learn.
- Created balanced email samples and individual email exports for student exercises, and documented lab setup and troubleshooting.

4Tekies LLC, Flourtown, PA

February 2024 - October 2025

Security Engineer Intern

- Designed a Raspberry Pi 4-based companion-robot prototype for assisted-living residents, integrating motion, thermal, and heartbeat sensors, voice-responsive movement, and wireless charging.
- Developed Python components for sensor-data collection and MongoDB storage; collaborated on an AWS-hosted Oracle APEX caregiver dashboard displaying resident readings, visualizations, and alerts.
- Implemented login controls, secured SSH access, and inspected device communications using Wireshark; used room-based identifiers in the caregiver dashboard.

PROJECTS

Project Diamond — Distributed JSON Processing

- Co-developed Python services for SFTP payload retrieval, HMAC-SHA256 verification, and Pyro4 remote calls; built an Eve REST API with MongoDB for workflow logging.

Smart Home Security Analysis

- Built and security-tested a Zigbee mesh network using KillerBee, Kali Linux, and modified XBee configurations; investigated interception scenarios with a signal generator and spectrum analyzer.

PUBLICATIONS

Roshanaei, M., & Jachura, M. (2025). Integrating AI in Cybersecurity Higher Education: A Path to Workforce Readiness. Journal of Intelligent Learning Systems and Applications.