# Frederick Berberich III

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## EDUCATION

**Marist University, School of Computer Science and Mathematics** – GPA: 3.502 | Dean’s List

Bachelor of Science, Cybersecurity – Minors in Computer Science, Information Technology, & Information Systems

## EXPERIENCE

**Marist – IBM Joint Study Poughkeepsie, NY**

System Administrator August 2024 – Present

* One of six Marist College students chosen for an elite program, partnering with IBM academic research (8% overall acceptance rate).
* Manages the Enterprise Computing Research Lab (ECRL) data center consisting of ten racks of IBM, Lenovo, Cisco, and Juniper switches, routers, and servers.
* Assists Capstone students with their projects which include installing, configuring, and maintaining Ubuntu, RHEL, and Windows servers.

**Marist College CS/IS/Information Technology Poughkeepsie, NY**

Networking Lab Assistant March 2023-May 2024

* Conducted maintenance on Cisco Switches and Routers by replacing fans or updating software on equipment installed on the racks.
* Organized and restructured other equipment stored on the 8 racks in the lab.
* Tutored students about hardware, network protocols and other information that is taught and utilized in the class Internetworking.

**Marist College Summer Research Fellowship Poughkeepsie, NY**

Low Energy Bluetooth Researcher May 2023–August 2023

* Created a stable and isolated testing environment to research Low Energy Bluetooth (BLE).
* Used Wireshark to collect over 20 data captures on advertising packets produced by BLE devices.
* Designed a step-by-step process that allows BLE devices to be fingerprinted and tracked through the MAC randomization protocol. Presented findings at **CURSCA 2024 & 2024 Hudson Valley Cyber Summit.**

## PROJECTS

**Mac Malware (Trojan viruses) Machine Learning Capstone Project Poughkeepsie, NY**

Machine Learning Engineer Fall 2024

* Conducted research on Trojan viruses affecting Apple computers which could imply persistence on Apple devices.
* Using the K-Nearest-Neighbors algorithm (KNN) and Sci-Kit Learn framework, developed a machine learning model that categorizes whether a Mac computer is running malicious software with a model accuracy of 99.25%. **Nominated for Mid-Hudson IEEE Undergraduate Capstone Project Award.**

**Ceph Cluster Poughkeepsie, NY**

Marist - IBM Joint Study Project Fall 2024 - Present

* Maintaining a Ceph cluster and multiple VM host servers to provide a scalable Platform as a Service (PaaS) solution for Marist faculty, staff, and students**. Awarded First Place in the IBM Mid-Hudson Valley Tech Connect Conference 2024.**
* Expanding an HPC cluster managed by Slurm, containing over 800 cores and 48 GPUs, optimized for handling AI and computational workloads.

## SKILLS

**Programming:** Python, Java, JavaScript, COBOL, SQL, PHP, HTML/CSS, Go.

**Operating Systems:** Windows/Windows Server, MacOS, Linux (Kali, Ubuntu, RHEL), z/OS, Cisco IOS, FreeBSD.

**Cloud Platforms & Tools:** AWS (S3, EC2), Kubernetes, Docker, OpenShift, GitHub/GitHub Actions (CI/CD), Ansible, Splunk

**Machine Learning:** Python, Pandas, Scikit-Learn, NumPy, TensorFlow, Jupiter Notebook, Google Collab.

## OTHER ACCOMPLISHMENTS

**IBM Badges:** IBM Z Xplore – Concepts & Advanced Badges, IBM Z and LinuxONE Community Contributor – 2025.

**Awards:** 1st place winner of IBM Tech Connect 2024, Nominated for Mid-Hudson IEEE Capstone Project Award.

**Conferences:** SHARE 2025, BSidesNYC, IBM Tech Connect 2024, Cursca 2024, Hudson Valley Cyber Summit 2024.

**Leadership:** Marist Cybersecurity Club Vice President since 2023