Matthew Esposito

Yorktown, VA

✉ maesposito@wm.edu in linkedin.com/in/matthew-esposito-a00813293 🌐 matthew.science

Education

William & Mary	**Expected May 2026**
BS in Computer Science & BA in Philosophy	*Williamsburg, VA*

- Lead DevOps, Linux Club; Speaker at W&M Cypher Hackathon
- Awards: 2x W&M Cypher Hackathon Award, Cyber NCL team placed **3rd** (Spring '25), **6th (Fall '24)** nationwide

Relevant Coursework

- Algorithms
- Computer Organization
- Software Development
- Finite Automata
- Applied Cybersecurity
- Cloud Computing
- Computer/Network Security
- Ethics in Data Science
- Philosophy of Technology

Experience

Memfault	**May 2024 – August 2024**
Software Engineering Intern	*Boston, MA*

- Designed and implemented new feature to parse and report stack traces in Rust and Python
- Trained a machine learning model to categorize embedded hardware's stack traces and core dumps into common fault categories, achieving 95% accuracy and helping customers more rapidly fix problems.
- Identified and resolved CI/CD bottlenecks, reducing run times and cutting costs.
- Created tool to integrate with Algolia APIs to measure engagement in high-potential target accounts.

Pex (Remote)	**December 2023 – April 2024**
Software and Hardware Developer	

- Developed embedded IoT prototypes from inception to testing in 12 weeks
- Architected solutions with C++ embedded systems, sound protocols, and cellular modem development
- Wrote C++ library for integrating with SIM7600 cellular modem for sub-30ms latency HTTPS/MQTT communication

Geospatial Evaluation and Observation Lab	**January 2023 – Present**
Software Developer, Team Lead	*Williamsburg, VA*

- Built SCOPE, a news info extraction/summarization tool with ML and LLMs.
- Led team and developed Kubernetes deployments and CI/CD pipelines.

Trilium.cc	**December 2021 – Present**
Founder	

- Starting a Software-as-a-service business and Linux server management.
- Serving over 150 customers and maintaining 99.9% uptime while learning backend development.
- Automated system tasks including backups, updates, and new server deployments with Ansible.

Projects

Redlib | *Rust, Docker, CI/CD, Reverse Engineering*	**Nov 2022 – Present**

- Maintainer of open-source Reddit frontend (2k+ stars, 1M+ container pulls/mo, 100k+ hits/day on popular instances).
- Enabled access for censorship-heavy regions, bulk academic research.
- Reverse-engineered Reddit mobile API for unthrottled data access.
- Implemented peer-to-peer protocol to coordinate handling instance outages live.

FocusGuardian | *Rust, Vue, C++, PocketBase, Tailwind*	**April 2024**

- Full-stack web & mobile app with hardware prototype (C++/LVGL).
- Rust-based backend handling DNS-over-HTTPS requests according to user-set schedule, 10k+ req/s.
- Built in 24-hour solo hackathon; won Best Hardware Hack.
- Wrote blog post about experience.

OccuMetrics | *C++, IoT, ESP32, Grafana, SQLite, ML*	**Sep 2023 – Dec 2023**

- Campus occupancy prediction via IoT devices and serverless stack.
- 90% accuracy in long-term forecasting using Prophet + time series ML.
- Writeup featured on Hackaday and cited in MIT Engineering courses.

Research

Vulnerability Testing Report   **Sep 2024 – Dec 2024**
Volunteer Cybersecurity Researcher   *Williamsburg, VA*
- Performed a volunteer full security assessment of a local business; authored 22-page CVSS report.
- Recommended remediations led to complete patching and mitigation.
- Disclosure coordinated; redacted report available on request.

Leadership / Community Involvement

Linux/FOSS Club   **Sep 2023 – Present**
Founding Member, DevOps Lead   *Williamsburg, VA*
- Promoting tech literacy and writing FOSS user guides.

Speaker, "A Case for Rust" – W&M Cypher Hackathon   **March 2023**
Sponsored by Rust Foundation   *Williamsburg, VA*
- Delivered technical talk and workshop introducing Rust programming.

Technical Skills

Technical Areas: Backend Development, IoT, Embedded Systems, Systems Programming, DevOps, Docker, Git, Nginx, Prometheus, Grafana
Languages: Rust, C, C++, C#, Python, Bash, JavaScript
Interests: Open Source, Linux, Rust