To: dmurphy@marymount.edu Subject: Richard Flores' Senior Portfolio

Dr. Murphy,

I am submitting my senior portfolio for your review as part of the IT Senior Seminar course. This portfolio represents the culmination of my academic and professional achievements leading up to and throughout my time at Marymount University, including projects, research, and skills developed in areas of information technology, cybersecurity, digital forensics, and network security. I believe this portfolio demonstrates my readiness for future opportunities in the IT field and reflects my dedication to excellence in the classroom and beyond.

Additionally, I hope that my portfolio will be considered for future academic and professional opportunities, including eventual admission to the M.S. Cybersecurity Program and potential scholarship offerings at Marymount University. I look forward to continuing my education in cybersecurity, and I am confident that my experiences and academic background will continue to contribute to my success.

Thank you for your time and consideration. I look forward to your feedback and to any further opportunities to discuss my future academic goals.

Thank you again.

Respectfully,

Richard Flores **Student | Cybersecurity Research Assistant Senator, Student Government Association** Marymount University B.S. Information Technology, Fall 2025 Cybersecurity, Digital Forensics, & Network Security Minors Email: rmf89685@marymount.edu | Cell: 571.395.0790







Senior Portfolio

Richard M. Flores II Cybersecurity Research Assistant

B.S. Information Technology Cybersecurity, Digital Forensics, and Network Security Minors

Marymount University

College of Business, Innovation, Leadership, and Technology School of Technology Arlington, VA

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EXECUTIVE SUMMARY

This document serves to present a summary of Richard Flores' experiences, academic accomplishments, and professional goals to future employers or academic program decision makers. The Personal Statement section introduces Richard, outlining his background, technical expertise, and commitment to cybersecurity through self-driven learning, government-focused research projects, and future goals within the field. Next is his resume showcasing a strong foundation in cybersecurity, practical research experience, leadership skills, and commitment to service, positioning him as a highly capable candidate for technology-focused roles. Richard's Academic Field of Study covers his journey in exploring various fields, ultimately choosing to focus his studies on Cybersecurity and Digital Forensics due to his interest in investigative work within cybersecurity.

The Technical Skills section highlights Richard's proficiency in cybersecurity tools, programming languages, cloud infrastructure, and other relevant technologies, underscoring his readiness to apply these skills in complex, security-focused environments. Soft Skills emphasizes that Richard's core soft skills—integrity, service, and excellence—were developed through his experiences in the Air Force, AFJROTC, and volunteer work, embodying the Air Force Core Values that continue to guide his professional conduct, and includes how completing the "Strengths Profile" report helped him identify his key strengths, areas for growth, learned behaviors, and weaknesses, providing valuable insights for personal and professional development.

Senior Activities highlights Richard's involvement in various projects, including his role in the U.S. Navy Cyber Resiliency and Measurement Challenge, and his ongoing internship for the U.S. Army, with future research set to be published on his virtual portfolio. Extra-Curricular Activities are also detailed, outlining leadership roles and active participation in various student organizations at Marymount University, including his work in the Student Government Association to address food security issues, his involvement in university clubs focused on food insecurity, intelligence, cybersecurity, and outdoor activities, emphasizing his commitment to service, inclusivity, and community engagement. Military and academic awards are recorded in the Awards and Honors section, followed by future goals in the Career Plan section.

Links to Applicable Resources contain contact information and URL's linking to sources of evidence. The Digital Portfolio section details what can be found online at **rmflores.github.io**, including evidence and artifacts to back details of this portfolio, and up-to-date projects, assignments, accomplishments, and experiences gained after the publishing of this document. Finally, the sources section lists some sources of information that are used within this document, primarily organizational and club summaries.

PERSONAL STATEMENT

Hello. My name is Richard. I was raised on a ranch in rural Colorado. Most people are surprised to hear I grew up without internet access, but this is what I credit for sparking my interest in computers and getting to understand them better. As a child, when I had issues with my computer, I had to figure them out for myself. I didn't have Google or YouTube to ask questions, and I could get some assistance from the included help files or manuals, but often I would half to solve problems by trial and error. My sister changed the password on our computer to lock me out of it, and I figured out how to bypass it using the correct sequence of clearing CMOS and booting into safe mode. Now it is easy to find methods of bypassing login passwords on computers using the internet, but it took me weeks without outside help. Ever since this time, I've wanted to understand how computers are supposed to work and how we can make them work in ways they were never intended to.

I'm an undergraduate student and cybersecurity research assistant at Marymount University, in Arlington, VA, graduating fall 2025. My studies focus on cybersecurity, digital forensics, and network security. I'm driven by a passion for harnessing technology to tackle challenges. As an Air Force veteran, I'm eager to apply my skills in cybersecurity within a government agency after graduating. I'm currently engaged in a project developing automated red-team cloud infrastructure as code solutions for Millenium Corporation and the U.S. Army, and I recently competed in a cybersecurity resiliency measurement challenge for the U.S. Navy, leveraging AI to assess system security postures and vulnerability risks posed by a variety of specific Advanced Persistent Threats. I thrive on problem-solving and am committed to finding solutions to the toughest challenges. I am in the process of onboarding to an internship this coming summer with the U.S. Department of State, gaining further hands-on experience in my field.

Explore my experiences and accomplishments throughout this document, and then visit my virtual portfolio at *rmfloresii.github.io* to view additional details of my accomplishments, experiences, and samples of my work. I'm always open to discussing new opportunities, collaborations, and insights within cybersecurity. If you'd like to connect directly, feel free to reach out via email – I'd be glad to connect and discuss how we can work together toward innovative solutions in this evolving field.

Thank you,

Richard Flores

RESUME

Air Force veteran and cybersecurity enthusiast with a strong work ethic, dedicated to sharing knowledge and facilitating learning in collaborative environments. Committed to providing exceptional service and support in technology-driven roles, while continuously seeking opportunities to expand my skills and contribute to team success. ISC² and National Space Society member. University Cyber Club, Intelligence Club, and Grit & Grime League member.

EDUCATION

Marymount University, Center of Academic Excellence in Cyber Defense, Arlington, VA

Bachelor of Science, Information Technology

Cybersecurity, Digital Forensics, & Network Security Minors

Graduating: December 2025

Current GPA: 4.0 / 4.0 scale

- Senator, Budget Committee, Student Government Association
- Relevant Courses: Software Testing and Quality Assurance, Software Engineering, Cloud Computing, Python Scripting, Database Technology, Project Management.
- Technical Workshops: C (language), Git/Github, and Ruby on Rails.
- Dean's List, Spring 2024

Northern Virginia Community College, CAE-CD, Annandale, VA

December 2023

Associate of Science in Information Technology
 Relevant Courses: Network Communication-Security-Authentication, Computer Science I,
 Scientific Programming, Programming Tools, Network Security Basics, Microcomputer Operating
 Systems, Personal Computer Hardware and Troubleshooting, Introduction to

Telecommunications, and Spreadsheet Software (Microsoft Excel).

Presidential Scholars List, Spring and Fall 2023; Dean's List, Fall 2022

CURRENT CERTIFICATIONS

CompTIA Security Analytics Professional CSAP, Cybersecurity Analyst CySA+ (Mar 2024; GK9DW3LTBJVQQG58), Security+ (Aug 2023; GXDHFHZYN2EE1090), and A+ (Feb 2024; RFQZ0K7Z22Q1QLWY)

Authenticate certifications at: verify.CompTIA.org
ISC² Certified in Cybersecurity CC (Jun 2024; 2061397)

CTIA WISE Level I and II (Renewed Nov 2023; 21854)

certify.ctiacertification.org

RELEVENT EXPERIENCE

Marymount University, College of BILT, Arlington, VA

May 2024 - Present

Cybersecurity Research Assistant
 Project: Automated Red Team Infrastructure Deployment
 Developing automated red team cloud Infrastructure as Code (IaC), leveraging scripting and automation tools to streamline deployment, configuration, and operational efficiency.

AWARDS AND RECOGNITIONS

See LinkedIn profile for full work history

Marymount University

- Formed finalist team in 5-week, multi-phase '24 Navy Cyber Resiliency and Measurement Challenge; developed and presented a systems assessment tool and algorithm, revised & expanded NIST CVSS scoring, leveraged AI, and incorporated systems security posture.
- Certificates of Appreciation for high school student mentorship in dual enrollment program on Concepts in Artificial Intelligence, and support of 2024 Cybersecurity GenCyber Camp.

VOLUNTEER WORK

Food for Thought, Marymount University

January 2024 - Present

- Assemble bagged meals for PathForward weekly, serving community members in need.
- Public tree planting with Arlington Urban Forestry Division, easing heat island effects.

Fancy Cats and Dogs Rescue Team

March 2013 - Present

• Setup and manage a wide range of technologies, including computers, printers, and network equipment; perform diagnosis, repair, and order new equipment.

ACCADEMIC FIELD OF STUDY

When I returned to school, I had not decided what field I wanted my career to be and what I wanted to focus my studies on. I've explored my interests by taking classes in Criminal Justice, Computer Science, Information Technology, and Cybersecurity. I've found I enjoyed components of all these fields, but I really enjoy the investigative aspects of Cybersecurity and Digital Forensics fields that I've decided to focus my studies in.





MAJOR: Information Technology, A.S. **MAJOR:** Information Technology, B.S.

MINORS: Cybersecurity

Digital Forensics

Network Security

CERTIFICATIONS

To better prepare myself and prove competency for the field of Cybersecurity, I have earned several certifications from trusted technology organizations CompTIA, ISC², and CTIA. Details can be found in my resume on the previous page, and digital copies of my certificates are located on me Digital Portfolio website, **rmfloresii.github.io**. In addition to already acquired certifications, I completed the beta exam for the new CompTIA PenTest+ over the summer; results of the exam are expected this coming December when the new exam goes live. I am also currently studying to take the Network+ exam and am working towards completion of the Google UX Design certificate on Coursera.

TECHNICAL SKILLS

These are a sampling of some of the technical skills I've gained professionally through working, academically in my studies, or personal in my free time.





Ansible







NVD





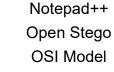


debian



Nikto



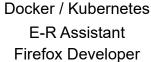


NIST NVD NMAP





C\/ss





Google Colab

GSuite

Hashcat

Hashicorp Language

InteliJ











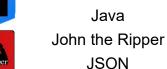






TINA







JSON

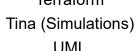


















Medusa

Junit











KALI LINUX



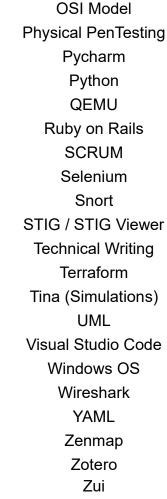












SOFT SKILLS

A lot of the soft skills I attribute to developing during my time in the Air Force, and prior to that when participating in Air Force Junior ROTC and volunteering with my local fire department during high school. Chief among my soft skills, I still hold integrity, service, and excellence above all others, as these wer engrained into me both in AFJROTC and while on active duty; the Air Force Core Values: "Integrity First, Service Before Self, and Excellence in All We Do."



STRENGTHS PROFILE & REFLECTION

Completing the "Strengths Profile" report from Cappfinity has helped me understand and reflect on various aspects of my personal and professional strengths, as well as areas for growth. By identifying my top three realized strengths, I have gained insight into qualities I naturally excel at and regularly use to make a positive impact. My three unrealized strengths show areas with potential I have not yet fully developed, providing aspects on where to focus my future growth. Recognizing learned behaviors gives me a sense of the skills I have acquired that may not come as naturally but are valuable in certain situations, and identifying a weakness helps me understand an area where I may want to seek further support and development.

REALIZED STRENGTHS

- Personal Responsibility I am true to my word, and I do what I say I will do.
- Incubator I reflect on challenges and constantly consider new approaches and solutions, even while not currently working on the specific task at hand.
- Catalyst I like to get things done, and I will motivate others to get started on tasks.

UNREALIZED STRENGTHS

- Judgement I consider choices, weigh the options, and come to good decisions.
- Bounceback When I have a setback, I take a step back, reassess, and come at the challenge motivated from a new angle.
- Gratitude I am aware and thankful for the good things in my life, and of those who have guided and assisted me along the way.

LEARNED BEHAVIORS

- Adventure I have learned to take on tasks I may not be comfortable with at first.
- Courage While I may not enjoy it, I have learned to accept changes and adapt.

WEAKNESS

 Action – I hesitate to act before fully considering all the options. This can be a beneficial trait at avoiding unnecessary risk, but at times choices need to be made with incomplete information and a lack of time to address concerns.

This report enhances self-awareness and provides direction for my personal development, helping me leverage my strengths and manage weaknesses as I progress personally, academically, and professionally.

SENIOR ACTIVITIES

CHALLENGE PROJECT: U.S. Navy Cyber Resiliency and Measurement Challenge – I formed a team that was selected to develop our phase I challenge solution proposal in a five-week challenge. In phase II, we developed a cybersecurity assessment and scoring tool, leveraging artificial intelligence to measure system security posture, and an algorithm that expanded on NIST NVD scoring, to assess systems resilience against a wide range of cybersecurity advanced persistent threats. We presented our solution during a challenge symposium in phase III to panel of judges, including a live demonstration of our software product, and competed in final challenge component adapting our system to analyze additional systems and simulate patching and introducing vulnerabilities in narrative scenarios.

SENIOR CAPSTONE: I have not yet completed my senior capstone project, but I am registered for the course for Spring, 2025. I've been considering developing my challenge project for the U.S. Navy further from lessons learned during the presentation and additional challenge phases, making our scoring more accurate, and providing more details to end users regarding the vulnerabilities that may exist on their systems, and suggested methods to harden their system against these vulnerabilities and the Advanced Persistent Threats that may be targetting them.

Another area of stuy I am interested in is developing a solution to help decrease the likelihood scams are successfully excecuted against our elder populations, through study of avenues frauds are successful, developing training material to increase awareness of the most popular trending scams that are taking place, and creating material to remind the most vulnerable of the risks presented by these cons.

SENIOR INTERNSHIP: As part of my studies, I am required to participate in an internship for credit. I was honored to be asked to join a research project for Millenium Corporation and the U.S. Army, under the guidance of two of my professors, working on developing Infrastructure as Code to automate the deployment of red team infrastructure to the cloud. This internship is still in progress, and we are not yet supposed to be communicating specifics of this project to others, but we anticipate our project being published sometime next year. Please check my virtual portfolio at **rmfloresii.github.io** regularly as I will post details of our research there once portions have been approved for publication.

Internship Organization Summaries



Marymount University is a nationally recognized academic institution headquartered in Arlington, VA. One of ten schools at the university, the School of Technology and Innovation focuses on education and research at the

intersection of emerging technology, cyber defense, artificial intelligence, and human factors. Marymount is designated as a Center for Academic Excellence in Cyber Defense (CAE-CD) by the NSA and DHS and holds a number of prestigious grants from NSA and NSF. Marymount has played a major role in developing cybersecurity education programs since 2008, with objectives to improve the number and the diversity in the cybersecurity workplace, bearing in mind the significant workplace gap. (Marymount University, School of Technology and Innovation)

Mission: Marymount is a comprehensive Catholic university, guided by the traditions of the Religious of the Sacred Heart of Mary, that emphasizes intellectual curiosity, service to others, and a global perspective. A Marymount education is grounded in the liberal arts, promotes career preparation, and provides opportunities for personal and professional growth. A student-centered learning community that values diversity and focuses on the education of the whole person, Marymount guides the intellectual, ethical, and spiritual development of each individual.

Vision: Marymount, a leading Catholic university, will be nationally recognized for innovation and commitment to student success, alumni achievement, and faculty and staff excellence. (Marymount University)



For nearly 20 years, the U.S. military and leading private companies have turned to Millennium Corporation as a leader in cybersecurity. As the Department of Defense's largest contractor for Red Team operations, they provide an unsurpassed level of threat intelligence and hands-on

experience to their clientele across the Defense Department, federal, & private sectors. Millennium Corporation has been operating on the leading edge of cybersecurity. No one supports more NSA-certified Red Teams, & no one does more DoD red team ops.

Mission: Develop and maintain a high caliber workforce capable of delivering transformational cyber, systems engineering, and business solutions that endure. Create valued customer and industry partnerships that contribute to continued corporate growth and foster community engagement.

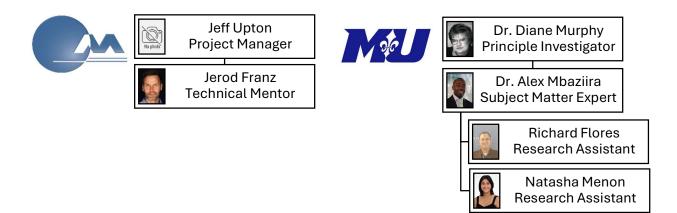
Vision: Be the industry leader of innovative technology and business solutions to the federal government. (Millennium Corporation)



In response to a Congressional mandate and funding in the 2020 National Defense Authorization Act (NDAA), the Test and Evaluation Cyber Center of Excellence (TECCE) was created as a collaborative effort between the office of the Director, Operational Test and Evaluation (DOT&E) and the Program Executive Office, Simulation, Training and Instrumentation (PEO STRI) to support Red Teams, fund

novel research, and integrate industry tools. Pathfinder is expanding to more agencies across government, incorporating Blue Teams, computer and software testing, and cyber policy development. As more universities and STEM programs participate, Pathfinder will increase the diversity of thought, ability, and experience needed to support in-demand, hard-to-fill positions—while expanding opportunities for promising students and transitioning military to support national security priorities, now and for years to come. (DoD Emerging Tech)

Research Team Organization Chart



EXTRA-CURRICULAR ACTIVITIES

STUDENT GOVERNMENT ASSOCIATION:

Senator, Class of 2026, Member of the Budget Committee

- ✓ Currently focusing efforts to decrease food security risks for student body by helping to implement improvements to Appollonie's Cupboards across campus thanks to generous support from Catholic Charities.
- ✓ Also raising concerns from several students regarding the discontinuation of SaintSwipe program allowing students in need to eat at the Dining Hall, paid for by the Student Government Association.

UNIVERSITY CLUBS:

- Food for Thought Food for Thought is a Marymount organization focused on raising awareness about, and helping to alleviate, food insecurity in the Arlington area. We have an on-campus "Plot Against Hunger" garden and donate the produce grown to our campus community as well as to the greater Arlington community. We also collaborate with our neighbors at the St. Andrew's Church with their "Plot Against Hunger" garden, whose proceeds are also donated to local food pantries. Additionally, we collaborate with Marymount Dining Services to donate bagged lunches to the Arlington Street People's Assistance Network (A-SPAN).
- Intelligence Club MIC seeks to provide members with networking opportunities with intelligence workers and recruiters, field trips to our country's most esteemed agencies' headquarters and other relevant locations, personalized advice for each student's intelligence career circumstances, and real insight from current and former employees of the Intelligence Community (IC) about modern day challenges the IC is facing.
- Oyber Club The purpose of this organization is to provide students with the knowledge and resources necessary to compete in Cybersecurity and Programming competitions with success. These include competitions in Capture the Flag format or Hackathons depending on the interest of the club's members. Special attention is paid to ensuring that the club's membership represents Marymount's diverse student base. One of the club's core founding principles will be providing an inclusive environment for individuals traditionally underrepresented in the field of Information Technology.
- Grit and Grime League An outdoor club, to call forth a brotherhood of brave souls into wild, challenging, and exhilarating adventures. May we ever revel in new journeys.
 (Marymount Student Clubs)

AWARDS AND HONORS

MARYMOUNT UNIVERSITY

- Presidential Scholars List, Fall 2023
- Presidential Scholars List, Spring 2023
- ❖ Dean's List, Fall 2022

NORTHERN VIRGINIA COMMUNITY COLLEGE

- Dean's List, Spring 2024
- Certificate of Appreciation, DC Public Schools, Concepts in Artificial Intelligence
- Certificate of Appreciation, GenCyber Summer Camp

UNITED STATES AIR FORCE



- > Army Commendation Medal
- Meritorious Unit Award, with 1 oak leaf cluster
- Air Force Outstanding Unit Award
- Air Force Good Conduct Medal
- National Defense Service Medal
- Iraq Campaign Medal
- Global War on Terrorism Service Medal
- Air Force Expeditionary Service Ribbon, with Gold Border
- Small Arms Expert Marksmanship Ribbon (Pistol)
- Air Force Longevity Service
- Air Force Training Ribbon
- Elizabeth N. Jacobson Award for Expeditionary Excellence, Unit Level

CAREER PLAN

In addition to the internship I am completing for the U.S. Army, I have received a conditional offer of employment for the U.S. State Department, pending successful adjudication of a security clearance. This opportunity fits well with my career plans, as I hope to receive one of several government scholarships to help pay for a Master of Science degree in Cybersecurity once my G.I. Bill benefits expire at the end of my bachelor's program. These scholarships require government service in exchange for the scholarship, and with my intention to seek employment in the government sector after graduating, this would be a fantastic opportunity for me.

In addition to my love for computers and technology, I also have a passion for everything space. This is why NASA would be my number one goal for the agency to eventually end up at. I've applied for internships there and will continue to do so until graduating. NASA has also been rated as the best place to work in government for almost two decades straight.

In the long term, I would like to teach what I have learned to others. I can do this throughout my career with those I work with, as well as potentially part time as a professor, but the final stage of my career I would like to be dedicated to educating and mentoring the next generations of cyber warriors and defenders, and inspiring a love for technology.

LINKS TO APPLICABLE RESOURCES

CONTACT INFORMATION

Personal Email: email@rflor.es

School Email: rmf89685@marymount.edu

Address: P.O. Box 182, Centreville, VA 20122

PROFESSIONAL NETWORKING

LinkedIn: linkedin.com/in/rmfloresii

Handshake: app.joinhandshake.com/profiles/55896592

ARCHIVES OF EMPIRICAL EVIDENCE

Digital Portfolio: rmfloresii.github.io

GitHub: github.com/rmfloresii

github.com/rogueflotilla

ACADEMIC PROGRAM CATALOGS

B.S. Information Technology

Marymount: marymount.smartcatalogiq.com/en/2023-2024/catalog/marymount-

university-catalog-2023-24/college-of-business-innovation-leadership-and-technology/school-of-technology-and-

innovation/undergraduate-degrees/information-technology-bs/

A.S. Information Technology

NVCC: catalog.nvcc.edu/preview program.php?catoid=10&poid=16

90&returnto=782

DIGITAL PORTFOLIO

My digital portfolio can be found at **rmfloresii.github.io**. Here, you will find additional information about me, digital artifacts of my experiences, evidence of my accomplishments, samples of my work, and contact information to reach out to me. I will keep this website up to date as my academic and professional careers progress.



SOURCES

- DoD Emerging Tech. *Pathfinder*. Washington, D.C., 10 September 2023. PDF. Accessed 29 October 2024. dodemergingtech.com/wp-content/uploads/sites/9/2023/10/Pathfinders-One-Pager-Slick.pdf.
- Marymount Student Clubs. *MU Engage Organizations*. Arlington, VA, n.d. Accessed 14 November 2024. marymount.campuslabs.com/engage/.
- Marymount University. *Our Mission, Vision, & Plan.* Arlington, VA, 30 May 2024. Website. Accessed 29 October 2024. marymount.edu/about-mu/our-mission-vision-plan.
- Marymount University, School of Technology and Innovation. *Marymount University, School of Technology, Capabilities Statement*. Bethesda, MD, n.d. PDF. Accessed 29 October 2024. iarpa.gov/images/PropsersDayPDFs/ReSCIND/Marymount University Capabilities Statement.pdf.
- Millennium Corporation. *Who we are*. Arlington, VA, 22 January 2023. Accessed 29 October 2024. millgroupinc.com/who-we-are.