

MARILU DUQUE

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Education

Technological University Dublin - Masters of Science in Applied Cyber Security Candidate **Starting September 2021**

- Selected for the George J. Mitchell Scholarship where I will spend the 2021-2022 academic year in Dublin, Ireland pursuing a fully-funded MSc at TU Dublin.
- This scholarship is modeled after Rhodes and organized by the US-Ireland Alliance aimed at connecting future American leaders to Ireland. (.03% Acceptance Rate)

University of Michigan — Ann Arbor: School of Information - Masters of Science in Information Candidate **April 2021**

- **Focus:** Data Science, Security & Privacy
- Vice President Ann Arbor Data Dive, Board Member for the Society of Hispanic Professional Engineers (SHPE) Graduate Chapter, Member of the Security Privacy Interaction Lab (SPI Lab)

New York University (NYU) — Tandon School of Engineering - B.S. in Integrated Digital Media **May 2019**

- **Minors:** Social & Public Policy, Business of Entertainment Media Technologies, and Science Technology Studies.
- University Honors Scholar: Founders Day Graduation Award Recipient for top-ranking baccalaureate candidates.

Professional Experience

Graduate Student Instructor, University of Michigan, SI 431: Algorithms and Society **Spring 2021- Present**

- Assisting Professor Sarita Schoenebeck in SI 431 which examines the ways algorithms impact individuals and communities by investigating concepts of bias, discrimination, fairness, ethics, justice, and potential harms of emerging technologies.
- Hosting office hours, assisting with instructional preparation, assessment, and leading discussions in critical areas of this field such as AI, Data Science & Cybersecurity.

Cyber Threat Intelligence Analyst Intern - FireEye **Summer 2020 - Fall 2020**

- Developed technical Threat Intelligence capabilities to fill identified gaps in company completion of customer requirements to deliver the most comprehensive, contextually rich, actionable cybersecurity intelligence.
- On the Cyber-Physical team, I advanced intelligence reporting software, cleaned relevant databases, conducted data analysis to publish reports on Industrial Control System (ICS) incidents, cyber threats by country, industry challenges in managing operational/information technology (OT/IT) networks, and educational training info within the ICS field.
- Completed U.S. Department of Homeland Security training relating to Security Practices, Risks, and consequences for ICS.

iSchool Inclusion Institute (i3) Research Fellow - UPitt School of Computing: **Summer 2019 - Spring 2021**

- Selected from a nationwide search to participate in this research program that prepares underrepresented students for careers in information and computing through funded research, academic workshops, and professional development.
- Lead a group of students from across the country on 2 research project researching the growing trends of domestic terrorism by those categorized as hate groups in the U.S using quantitative (NLP/ML) and qualitative (coding) methods.
- Preliminary studies published at iConference 2020 and 2nd publication accepted to iConference 2021.

UMich 2020 Multidisciplinary Design Program (MDP) - System Security Researcher: **Spring 2020 - Fall 2020**

- Worked on the “System Security: Preventing Automotive Cyber Attacks” for Aptiv, the automotive parts technology company. Using the following tools: Zeek/Bro, Snort, Suricata, Wireshark, and VirtualBox.
- Lead the Zeek/Bro Intrusion Detection System (IDS) team researching active threat detection methods, conducting data analysis to evaluate the adaptability of IDS tools on autonomous systems, and developing mitigation solutions for Aptiv’s Connected Secure Gateway Platform.
- Wrote documentation and reports for installation, configuration, and analysis of tools for stakeholder use and operations.

Professional Experience Continued

U.S. Department of State, Virtual Student Federal Service (VSFS) eIntern:

Fall 2018 - Spring 2019

- Researching and analyzing models relevant to the understanding of megacities and dense urban environments in order to inform senior leaders on how future communication systems will perform in military operations.
- Leading the EuCom regional group and the Communications & Information (CI) functional group while supporting The Research and Analysis Center within Army Futures Command for the Department of Defense.
- Presented Telecommunications research at the Military Operations Research Society (MORS) Analysis of Urban Warfare Conference in Quantico, VA (April 4th, 2019).

Association of Research Libraries (ARL) Data Security Intern:

Fall 2018 - Spring 2019

- Developed an offensive security penetration testing plan for the archivist tool, "ArchivesSpace," at NYU's Bobst Library.
- Researched IT/GDPR Policy and penetration methods through Virtual Machines (VMWare), application configuration, and deployment on AWS to assess vulnerabilities within the application, MFA Authentication, and physical security.

Naval Research Enterprise Intern (NREIP), US Marine Corps Warfighting Lab, Quantico, VA:

Summer 2018

- Researched and wrote a paper on forthcoming UAV military technology while proposing a new, CAD designed & 3D printed capability and created python code for an algebraic problem needing to be solved.
- 2 Patents Pending with the Department of the Navy (DoN) and featured in the Navy base-wide science newsletter.
- Co-wrote a paper on international arms dealing (ITAR), researched Bluetooth security capabilities, conducted wargaming simulations, and learned about the inner workings of military leadership.

Extracurricular Programs

Judge - CSAW Cybersecurity Policy Competition, Remote

Fall 2020

- Evaluating cybersecurity policy submissions on topics relating to Healthcare, Disinformation, National Security & Cryptocurrency. Competition organized by the NYU Center for Cybersecurity and Center for Global Affairs.

Hispanic Heritage Foundation Code as a Second Language (CSL), NYC Regional Lead:

Fall 2017 - Spring 2019

- Taught 60+ young minorities (Yielding 50% Female participation) at a high school in the Bronx about security, how to create websites, apps, and apply for college. Created course curriculum and supervised student volunteers

Team Lead, Google Community Leaders Program, New York, NY:

Spring 2016-2018

- Managed a group of 6+ college student volunteers working helping to improve web literacy across the city by teaching anything from email etiquette to basic HTML.

ESA LOFT Video Game Innovation Fellowship & Alumni Speaker:

Fall 2014 - Spring 2016

- Presented my app "My Fitness Journey" (Created with Eclipse and MIT App Inventor) at the White House and Congress.

CTO @ Camp Sci Girl, Ashoka's Catapult Incubator, Google, Stanford, CA, Remote

Spring 2014 - Spring 2016

- Helped advance this free online coding camp for middle school girls created to introduce them to STEM at a young age. Reached 300+ students in the 2 summers of operation. Scaled our business while learning about leadership and fundraising.

Related Courses

Statistics and Data Analysis, Crisis Informatics, Consulting, Advanced Python, Data Manipulation, Information Privacy, Geographic Information Systems, Applied Machine Learning, Cybersecurity Policy, Ideation & Prototyping, Intro to Shell, SQL, Fundamentals of Social Entrepreneurship: Problem Solving and Innovation.

Skills

Python, HTML, CSS, VMWare, Window/Mac Environments, Research, Technical Writing, Data Visualization (ggplot2, plotly, seaborn, NumPy), Data Scraping & Analysis, Pandas Library, scikit-learn, Latent Semantic Analysis (LSA), Natural Language Processing (NLP), Multilingual Corpus Analysis, Machine Learning (Random Forest, Regression, Clustering, Classification, Neural Network), Text Analysis, Social Network Analysis, OSINT Framework, Thematic Analysis, User Experience Design, Technical Communication, Report Writing, Adobe Creative Suite, GDPR Policy, Data Privacy Policy, NIST Framework, CAD, ArcGIS, Jupyter Notebook, Native Spanish Speaker, Resourceful, Adaptable, Efficient, Self-Motivated.

Relevant Presentations & Panels

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| Conference Presenter: “Exploring Patterns in White Extremists' Ideologies: A Preliminary Mixed Methods Approach to Analyzing Manifestos Shared via ICTs,” iConference 2020 | 03/2021 |
| Keynote Speaker: Cybersecurity For Social Good, SANS Cyber Camp For Teens, Remote | 08/2020 |
| Conference Presenter: “An Unholy Alliance: Christian Identity Extremists and ICTs,” iConference 2020 | 03/2020 |
| Conference Presenter: Communications and Information VSFS Megacity Project, Military Operations Research Society (MORS) Analysis of Urban Warfare Conference | 04/2019 |
| Panelist: LOFT Coder Summit, HHF, Columbia University, New York, NY | 09/2016 |
| Panelist: Closing the Gap: Diversity in the Video Game and Tech Industries, HHF, U.S. Congress, D.C. | 10/2015 |
| Panelist: Latina Innovators Embracing STEM, Hispanicize Annual Conference, Miami, FL | 03/2015 |

Awards, Honors, and Scholarships

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| Into the Dataverse Hackathon - Top 5 Team ‘19 | CMEP Nia Award for Academic Excellence ‘19 | NYU SHPE Xerox Scholar ‘16 |
| CybraryIT WISP Scholarship ‘19 | NYU Center for Student Life “Unsung Hero” Award ‘19 | Gates Millennium Scholar ‘15 |
| University Honors Scholar: Founders Day Award ‘19 | Scholarship for Women Studying Information Security (SWSIS) ‘19 | Buick Achievers Scholar ‘15 |
| Women in Security and Privacy (WISP) BlackHat Scholarship ‘19 | NYU Admissions Ambassador Of The Month - November ‘18 | NBC Comcast Leaders and Achievers Scholar ‘15 |
| Black Hat USA Scholarship ‘19 | SANS Cyber Threat Intelligence Summit Scholar ‘18 | League of United Latin American Citizens Scholar ‘15 |
| ISC ² Women's Cybersecurity Scholarship ‘19 | Hispanic Scholarship Fund STEM Summit Scholar ‘18 | NCWIT Aspirations in Computing National Runner-Up Award ‘14& ‘15 |
| Women in Security and Privacy (WISP) DEFCON Scholarship ‘19 | Cyber War Con Scholar ‘18 | Tomorrow’s Leaders Scholar ‘15 |
| University of Michigan Achievement Fellowship ‘19 | Designation Conference Fellow ‘18 | MIT Dream It. Code It. Win It. Coding Competition Winner ‘15 |
| | Hispanic IT Executive Council Foundation Scholar ‘18 ‘19 ‘20 | 1st place at “El Hackathon” for Java Programed App ‘14 |
| | | Florida’s Outstanding Volunteer of the Year ‘15 |

Papers & Projects

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| “Exploring Patterns in White Extremists' Ideologies: A Preliminary Mixed Methods Approach to Analyzing Manifestos Shared via ICTs” | Spring 2021 |
| <ul style="list-style-type: none">• Poster paper accepted for publication at iConference 2021, Expected March 2021 | |
| “An Unholy Alliance: Christian Identity Extremists and ICTs” | Spring 2020 |
| <ul style="list-style-type: none">• Poster paper published at iConference 2020• Duque, M. F., Khalid, M. H. F., Cach, J. V., Hernandez-Teran, M., Moore, K. “An Unholy Alliance: Christian Identity Extremists and ICTs.” IDEALS @ Illinois, ISchools, 23 March 2020. hdl.handle.net/2142/106598. | |
| U.S. DoS VSFS Intern - Telecommunications Research Deliverables | Spring 2019 |
| <ul style="list-style-type: none">• http://bit.ly/MariluVSFS | |