

MARILU DUQUE

MariluD@UMich.Edu • MariluDucque.Com • In/MariluDucque

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 *May 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- Spring 2021*

- Assisted Professor Sarita Schoenebeck in SI 431 which examines the ways algorithms impact individuals and communities by investigating concepts of bias, discrimination, fairness, ethics, justice, policies, and potential harms of emerging technologies.
- Hosted office hours, assisted with instructional preparation, assessment, and leading discussions in critical areas of this field such as Data Science, Cybersecurity, Tech Laws, and Ethics of Hacking.

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

- Developed technical Threat Intelligence tools to fill identified gaps in company completion of customer requirements to deliver the most comprehensive, contextually rich, actionable cybersecurity intelligence reports.
- 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 projects 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 published at 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.
- 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.
- Lead 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). <http://bit.ly/MariluVSFS>

Association of Research Libraries (ARL) Data Security Intern: *Fall 2018 - Spring 2019*

- Researched IT/GDPR Policy regulations as to the usage of the archivist tool, "ArchivesSpace," at NYU's Bobst Library.
- Developed a report that addressed the library's current need to implement a GDPR policy compliance plan, as well as analyzed vulnerabilities within the tools log-in page, and usage of MFA Authentication by employees.

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.
- Submitted 2 patent applications with the Department of the Navy and featured in the Navy base-wide science newsletter.
- Co-wrote a paper on international arms dealing (ITAR) policies, researched Bluetooth security capabilities, conducted wargaming simulations, and learned about the inner workings of military leadership & international relations cooperation.

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.

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, Consulting, Report Writing, Adobe Creative Suite, GDPR Policy, Data Privacy Policy, NIST Framework, CAD, ArcGIS, Jupyter Notebook, Native Spanish Speaker, Resourceful, Adaptable, Efficient, Self-Motivated.

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, Fundamentals of Social Entrepreneurship: Problem Solving and Innovation, Innovation for Impact: Defense and Security, Media Law, Entertainment Law, Politics of Public Policy, Intelligence and National Security Policymaking, Music Streaming Economy.

Relevant Presentations & Panels

Conference Presenter: “Local Government Cybersecurity: Analyzing How Communities Cope with Digital Threats,” Student Symposium, iConference 2021	03/2021
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

UMSI Expo: Community Engagement Award, Honorable Mention '21	CMEP Nia Award for Academic Excellence '19	Gates Millennium Scholar '15
Into the Dataverse Hackathon - Top 5 Team '19	NYU Center for Student Life “Unsung Hero” Award '19	Buick Achievers Scholar '15
University Honors Scholar: Founders Day Award '19	Scholarship for Women Studying Information Security '19	League of United Latin American Citizens Scholar '15
Black Hat USA Scholarship '19	NYU Admissions Ambassador Of The Month - November '18	NCWIT Aspirations in Computing National Runner-Up Award '14& '15
ISC ² Women's Cybersecurity Scholarship '19	Hispanic Scholarship Fund STEM Summit Scholar '18	Tomorrow's Leaders Scholar '15
Women in Security and Privacy (WISP) DEFCON Scholarship '19	Hispanic IT Executive Council Foundation Scholar '18 '19 '20	MIT Dream It. Code It. Win It. Coding Competition Winner '15
University of Michigan Achievement Fellowship '19	NYU SHPE Xerox Scholar '16	1st place at “El Hackathon” for Java Programed App '14
		Florida's Outstanding Volunteer of the Year '15

Relevant Papers & Projects

Masters Thesis: “Local Government Cybersecurity: How Michigan Counties Cope with Cyber Threats” *Spring 2021*

- This research study aims to understand how Michigan counties protect their IT systems, define challenges they face in improving their cybersecurity posture, and address the potential improvements to current cybersecurity practices. This thesis addresses these goals through interviews and a questionnaire with local government IT leaders across Michigan.

iConference 2020 & 2021

Spring 2020 & Spring 2021

- 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.
- Duque, Marilu F., et al. “Exploring Patterns in White Extremists' Ideologies: A Preliminary Mixed Methods Approach to Analyzing Manifestos Shared via ICTs.” IDEALS @ Illinois, ISchools, 17 Mar. 2021, hdl.handle.net/2142/109708.

Undergraduate Senior Project: “The Year: 2066”

Spring 2019

- Internet Privacy and Surveillance project created to inform viewers of the importance of securing our data before it's too late. This propaganda serves as an analysis and representation of the ongoing surveillance crisis while integrating the fear-inducing art styles such as Russian Constructivism. http://bit.ly/MariluD_IDM_Final