



Andrew Quijano

Curriculum Vitae

Andrew Quijano is a current PhD student at NYU Tandon majoring in Computer Science. His dissertation research focuses on planting triggerable, verified vulnerabilities into existing program source code, This would be applicable to benchmarking software security tools ability to detect vulnerabilities and automatically creating cybersecurity challenges for education

Education

- 2023–Present **PhD**, *New York University*, *GPA – 4.0*.
Computer Science, advised by Professor Brendan Dolan-Gavitt
- 2021–2022 **Master of Science**, *Columbia University*, *GPA – 3.4*.
Computer Science
- 2020–2022 **Master of Science**, *New York University*, *GPA – 3.8*.
Cybersecurity
- 2017–2019 **Bachelor of Science**, *Columbia University*, *GPA – 3.3*.
Computer Science
- 2015–2017 **Bachelor of Arts**, *The City University of New York*, Queens College, *GPA – 3.5*.
Mathematics
- 2014–2015 **Associate of Applied Science**, *The City University of New York*, LaGuardia Community College, *GPA – 3.5*.
Computer Operations: Networking and Security

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Experience

Professional

- Aug 2022 – **Security Engineer I**, AMAZON, New York, NY.
- Dec 2024
- Graduate over 50 security certifiers after providing feedback on how to complete a thorough security review
 - Revise internal security documentation on confirming security compliance for AWS components, e.g. Lambda, S3, etc.
 - Complete two AWS applications security reviews related to sanctions and denied party screening, resulting in the remediation of 20 high risk vulnerabilities
 - Provide design and review consultations to application owners of the security impact of new features and integrations
 - Is a core contributor to the BRASR tool, an internal tool used for AWS security misconfiguration scanning, which is used to run multiple cloud scanners and provide a processed report that reports on likely false positives and crowdsourced threat mitigation information which is used within the AppSec organization
 - Lead an effort with the VM and Code Builder team to create an automated process to deprecate end of life packages
- May 2023 – **Information Technology Intern**, HESS CORPORATION, Houston, TX.
- Aug 2023
- Communicated with vendors to schedule demos and obtain information required for Hess Security and Operations teams to PoC firewall audit tools
 - Completed the design and analysis phase of a Firewall audit tool Proof of Concept
 - Presented to IT leadership the business of onboarding a firewall audit tool
- Jul 2019 – **Security Testing Analyst**, JRI-AMERICA, New York, NY.
- Aug 2022
- Automated escalation process for IT Security company policy violations using PowerShell (e.g. incomplete entitlement Reviews, unused AD Groups, etc.)
 - Systematized security processes using PowerShell, e.g. admin account management, CyberArk safe management, service account audits, etc.
 - Implemented automated vulnerability management metric generation to track and remediate vulnerabilities past SLA dates
 - Evaluated cyber risk and create remediation plans for penetration testing vulnerabilities
 - Developed password file remediation process in Python that incorporates automated escalation and remediation tracking
 - Managed a project to implement InsightAppSec, an application layer vulnerability scanner on externally facing websites
 - Led the effort to remove TLS 1.0/1.1 from SMBC and group company applications
 - Discovered a high-risk privilege escalation vulnerability where unprivileged accounts have admin access to servers and assisted the security engineering team to remediate it
 - Coordinated a penetration test and phishing campaign to remain compliant with DFS 500 cybersecurity regulations
- Feb 2020 – **Technical Consultant**, IFTACH GROUP, New York, NY.
- Aug 2020
- Conducted detailed analysis on potential business partners for MOBI, an Israeli startup focused on using AI for traffic analysis
 - Investigated the impacts of the COVID-19 pandemic concerning MOBI and its potential clients
- Oct 16 – May 2017 **Physics Lab Assistant**, CUNY QUEENS COLLEGE, Flushing, NY.
- Set up the Physics experiments for Physics Lab sections
 - Learned how to solder to repair electronics and other equipment in the Physics Lab

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- Jun 2016 – **Information Technology Intern**, US TENNIS ASSOCIATION, Flushing, NY.
- Aug 2016
- Assisted in updates and upgrades of loaner laptops for the U. S. Open
 - Installed new computers in various offices in the Billie Jean King National Tennis Center
 - Created a detailed inventory of all equipment in the IT department and checked if all the equipment was functional for the US Open
 - In collaboration with other Diversity and Inclusion interns, proposed solutions to the USTA on how to make tennis more popular with people between the ages of 18 through 40
- Oct 2015 – **Bibliographic Researcher**, MICROPALIENTOLOGY PRESS, Flushing, NY.
- Oct 2016
- Created citation indexes of micro-fossils from Micro-paleontology journals containing the species name and the scientist who discovered it
 - Systematized security processes using PowerShell, e. g. admin account management, CyberArk safe management, service account audits, etc.
- Jun 2015 – **Information Technology Intern**, LAGUARDIA COMMUNITY COLLEGE, Long Island City, NY.
- Aug 2015
- Prepared the computer lab for the upcoming Fall 2015 semester by installing new applications, updating software, and creating new partitions
 - Responsible for troubleshooting any technical issues with the computers or LaGuardia network
 - Assisted students in configuring/troubleshooting Cisco routers, switches, and firewalls

Teaching Experience

- Jan 2023 – **Adjunct Professor**, NEW YORK UNIVERSITY, Brooklyn, NY.
- May 2024
- Updated course material with the latest application security practices
 - Generated a grading program for the web application security assignment
 - Created a grading program for the mobile application security assignment
 - Lectured on secure coding practices in C and web application security
 - Provided Gradescope with a module to support an integration with Django testing
- Sep 2020 – **Security I Course Assistant**, COLUMBIA UNIVERSITY, New York, NY.
- Dec 2021
- Was a course assistant for the Fall 2020 and Fall 2021 semesters
 - Provided documentation on threat modeling with an example using an attack tree to analyze the threat of a compromised Columbia UNI credential
 - Provided instructions on how to use Travis CI, so students can use CI to confirm their programs pass their own test cases
 - Presented supplemental material on how to use the AFL fuzzer to test C/C++ programs to students
 - Hosted office hours, answered most of the course questions offline and graded homework assignments
 - Provided new questions and solutions to the midterm exam and final exam
- Jan 2021 – **Computer Networks Course Assistant**, COLUMBIA UNIVERSITY, New York, NY.
- May 2021
- Held office hours, answered student's questions, and graded homework assignments
 - Managed the TA team to ensure timely grading, late-day management and course logistics
 - Provided skeleton code to the class to provide guidance on homework assignments
- Jan 2019 – **Security II Course Assistant**, COLUMBIA UNIVERSITY, New York, NY.
- May 2020
- Was a course assistant for the Spring 2019 and Spring 2020 semesters
 - Hosted office hours, answered student's questions, and graded homework assignments
 - Provided a lecture on Wireless Security during a Professor's absence

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- Sep 2018 – **Intro to EE Course Assistant**, COLUMBIA UNIVERSITY, New York, NY.
 May 2019
 - Hosted office hours, answered student's questions, and graded homework assignments
 - Updated Homework solutions with more steps to better prepare students for exams
- Feb 2017 – **Math Lab Teaching Assistant**, CUNY QUEENS COLLEGE, Flushing, NY.
 May 2017
 - Assisted students in learning Calculus, Discrete Mathematics, Algebra, etc.
 - Submitted a solutions manual for a Discrete Mathematics course for internal publication
- Research Experience**
- May 2024 – **Graduate Research Assistant**, MIT LINCOLN LABORATORY, Lexington, MA.
 Aug 2024
 - Collaborated with MIT LL staff on threat modeling and cyber risk assessment for securing systems
 - Created, tested, and documented SysML plugin for MagicDraw to aid with cyber risk assessment methodologies
 - Work and findings over the summer led to a conference paper for INCOSE 2025 (submitted)
- Sep 2023 – **Graduate Research Assistant**, NEW YORK UNIVERSITY, New York, NY.
 Present
 - Upgrade symcc to plant more difficult to discover security bugs when using LAVA
 - Implement software best practices such as adding CI/CD on MESS lab built software to ensure better code artifacts for submission to conferences
 - Collaborate with ADWISE Lab on research related to applied cryptography on privacy-preserving decision trees and secure drone collision avoidance protocols
- May 2021 – **Graduate Research Assistant**, MIT LINCOLN LABORATORY, Lexington, MA.
 Aug 2021
 - Upgraded zero-knowledge performance testbed by implementing horizontal scaling, bastion proxying, and integration tests
 - Written a qualitative analysis report on performers converting real-life problems into a novel zero-knowledge representation
- May 2018 – **Undergraduate Research Assistant**, COLUMBIA UNIVERSITY, New York, NY.
 Sep 2018
 - Created an Android app that can passively collect AP, RSSI, and environmental data
 - Tested an indoor room-level localization system using machine learning techniques on collected data
- Sep 2017 – **REU Research Assistant**, CUNY LEHMAN COLLEGE, Bronx, NY.
 Jan 2018
 - Worked collaboratively with a team to analyze phylogenetic tree structures
 - Performed studies on open questions in computational geometry with applications to biological statistics
- May 2017 – **REU Research Assistant**, FLORIDA INTERNATIONAL UNIVERSITY, Miami, FL.
 Aug 2017
 - Coded in Java the homomorphic encryption algorithms: Paillier, DGK, and El-Gamal
 - Built a MySQL server that used homomorphic encryption and Wi-Fi signatures for indoor localization
 - Programmed Android app designed to communicate with MySQL server for secure localization

Awards

- 2023 GEM Fellowship - PhD
- 2021 Columbia University Course Assistant Fellowship
- 2020 NYU Cyber Fellows Scholarship
- 2017 Robert M. Lilley Memorial Scholarship
- 2017 Louis Stokes Alliance for Minority Participation Scholarship

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Submitted Papers

Quijano, Andrew, Zhang Annie, Denney Kyle, Tara Sarathi, 'Reaping the Benefits of SysML: Advanced Risk Evaluation Assessment Plugin for Cybersecurity' In *35th International Council on Systems Engineering (INCOSE) International Symposium*

Publications

- Luedeman, A., Baum, N., Quijano, A., & Akkaya, K. (2024). Privacy-preserving drone navigation through homomorphic encryption for collision avoidance. *2024 IEEE 49th Conference on Local Computer Networks (LCN)*, 1–6. <https://doi.org/10.1109/LCN60385.2024.10639770>
- Quijano, A., Halkidis, S. T., Gallagher, K., Akkaya, K., & Samaras, N. (2024). Enhanced outsourced and secure inference for tall sparse decision trees. *2024 IEEE 43rd International Performance Computing and Communications Conference (IPCCC)*.
- Kobriger, K., Zhang, J., Quijano, A., & Guo, J. (2021). Out of our depth with deep fakes: How the law fails victims of deep fake nonconsensual pornography. *Rich. JL & Tech.*, 28, 204–253. <https://jolt.richmond.edu/files/2021/12/Kobriger-Final-for-Publication.pdf>.
- Davidov, N., Hernandez, A., Jian, J., McKenna, P., Medlin, K. A., Mojumder, R., Owen, M., Quijano, A., Rodriguez, A., John, K. S., & Thai, K. (2020). Maximum covering subtrees for phylogenetic networks. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 18(6), 2823–2827. <https://ieeexplore.ieee.org/abstract/document/9272681>.
- Quijano, A., & Akkaya, K. (2019). Server-side fingerprint-based indoor localization using encrypted sorting. *2019 IEEE 16th International Conference on Mobile Ad Hoc and Sensor Systems Workshops (MASSW)*, 53–57. <https://ieeexplore.ieee.org/abstract/document/9059316>.

Technology skills

- Operating Systems Windows, Ubuntu, Amazon Linux
- Applications GitHub Actions, Docker
- Programming Languages C/C++, Java, Bash, SQL, Python, CDK

Certifications

- Dec 2019 - GIAC Security Essentials Certification (GSEC)
Dec 2023
- May 2021 - GIAC Web Application Penetration Test (GWAPT)
May 2025
- Feb 2022 - GIAC Incident Handling (GCIH)
Feb 2026
- Jul 2022 - GIAC Penetration Tester (GPEN)
Jun 2026

Languages and Nationality

- English **Mothertongue**
- Spanish **Mothertongue**

Conversationally fluent

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