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 Commuity College, *GPA − 3.5*. Computer Operations: Networking and Security

Experience

Professional

Aug 2022 – Dec 2023
Security Engineer I, Amazon, New York, NY.
- Audit newly on-boarded applications' threat models, system architecture, security testing and source code review
- Complete scans of AWS applications using Prowler and generate reports for developers to remediate detected issues
- Improve efficiency of security reviews by assisting with automating cloud scanning and report generation in security reviews
- Provide design and review consultations to application owners of the security impact of new features and integrations

May 2023 – Aug 2023
Information Technology Intern, Hess Corporation, Houston, TX.
- 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 – Aug 2022
Security Testing Analyst, JRI - America, New York, NY.
- 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 – Aug 2020
Technical Consultant, Iftach Group, New York, NY.
- 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

Jun 2016 – Aug 2016
Information Technology Intern, US Tennis Association, Flushing, NY.
- 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 – Oct 2016   **Bibliographic Researcher**, Micropalentology Press, Flushing, NY.
- 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 – Aug 2015   **Information Technology Intern**, LaGuardia Community College, Long Island City, NY.
- 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 – Present   **Adjunct Professor**, New York University, Brooklyn, NY.
- Update course material with the latest application security practices
- Generate a grading program for the web application security assignment
- Create a grading program for the mobile application security assignment
- Lecture on secure coding practices in C and web application security
- Provide Gradescope with a module to support an integration with Django testing

Sep 2020 – Dec 2021   **Security I Course Assistant**, Columbia University, New York, NY.
- 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
- Provided new questions and solutions to the midterm exam

Jan 2021 – May 2021   **Computer Networks Course Assistant**, Columbia University, New York, NY.
- 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 – May 2020   **Security II Course Assistant**, Columbia University, New York, NY.
- 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
- Protocred the midterm exam

Sep 2018 – May 2019   **Intro to EE Course Assistant**, Columbia University, New York, NY.
- 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 – May 2017   **Math Lab Teaching Assistant**, CUNY Queens College, Flushing, NY.
- Assisted students in learning Calculus, Discrete Mathematics, Algebra, etc.
- Submitted a solutions manual for a Discrete Mathematics course for internal publication

Research Experience

May 2021 – Aug 2021   **Graduate Research Assistant**, MIT Lincoln Laboratory, Lexington, MA.
- 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 – Sep 2018   **Undergraduate Research Assistant**, Columbia University, New York, NY.
- 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 – Jan 2018   **REU Research Assistant**, CUNY Lehman College, Bronx, NY.
- 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 – Aug 2017   **REU Research Assistant**, Florida International University, Miami, FL.
- 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

Publications

Nathan Davidov, Amanda Hernandez, Justin Jian, Patrick McKenna, Karen A. Medlin, Roadra Mojumder, Megan Owen, Andrew Quijano, Amanda Rodriguez, Katherine St John, et al. Maximum covering subtrees for phylogenetic networks. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 18(6):2823–2827, 2020.

Kate Kobriger, Janet Zhang, Andrew Quijano, and Joyce Guo. Out of our depth with deep fakes: How the law fails victims of deep fake nonconsensual pornography. *Rich. JL & Tech.*, 28:204, 2021.

Andrew Quijano and Kemal Akkaya. Server-side fingerprint-based indoor localization using encrypted sorting. In *2019 IEEE 16th International Conference on Mobile Ad Hoc and Sensor Systems Workshops (MASSW)*, pages 53–57. IEEE, 2019.

Technology skills

Operating Systems   Windows, Ubuntu, Amazon Linux

Applications	GitHub Actions, Docker
Programming Languages	C/C++, Java, Bash, SQL, Python, CDK

Certifications

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

Languages and Nationality

English	**Mothertongue**	
Spanish	**Mothertongue**	*Conversationally fluent*
Nationality	**American and Peruvian**	*Dual Citizen*