

HARRISON FERNANDEZ

Queens, NY | 929-471-2159 | harrison-fernandez.github.io | harrison.fernandez@jjay.cuny.edu

EDUCATION

JOHN JAY COLLEGE (CUNY), New York, NY

Bachelor of Science, Computer Science and Information Security

Expected May 2019

- GPA 3.8, Dean's List 2015 - Present.
- National Science Foundation STEM Scholarship Recipient 2018 - Present.
- Honors Program – Participates in leadership development program and academic advising.
- PRISM Program – Participates in research development program and one-to-one faculty mentoring.

SKILLS

Languages: English and Spanish. **OS:** Windows, Mac, Debian and RedHat based Linux distros - Kali, CentOS, etc.

Programming Languages: Object-Oriented C++, Python, HTML, CSS, and Javascript.

Familiar with: Steganography, reverse engineering tools, password cracking, binary analysis, cryptanalysis, intrusion detection systems (Snort, Bro, OSSEC), Wireshark, and Nmap.

RESEARCH EXPERIENCE

CAPSTONE EXPERIENCE IN HONORS PROGRAM (HON 401), New York, NY

Spring 2019

Student Researcher, John Jay College (CUNY), Faculty Mentor: Dr. Sven Dietrich.

Project Title: A Combined Approach to Vulnerable Code Clone Discovery.

- Develops a new method of vulnerability discovery utilizing both source and binary code.
- Performs a survey of existing state-of-the-art source code clone discovery techniques.
- Evaluates source code clones across four open source projects and large database of firmware images.
- Will present research at campus-wide symposium (May 2019).

PROGRAM FOR RESEARCH INITIATIVES (PRISM), New York, NY

Summer 2018 - Present

Student Researcher, John Jay College (CUNY), Faculty Mentor: Dr. Sven Dietrich.

Project Title: Towards Vulnerable Binary Code Clone Detection through Firmware Lineage.

- Develops an advanced method of vulnerability discovery in binary code.
- Evaluates firmware images across multiple architectures and compilers.
- Experiments with several binary disassemblers.
- Will present research at campus-wide symposium (May 2019).

CAPSTONE EXPERIENCE IN CYBERSECURITY (CSCI 400), New York, NY

Fall 2018

Student Researcher, John Jay College (CUNY), Faculty Advisor: Dr. Sven Dietrich.

Project Title: An Empirical Study of the Robustness of Google Play Store Applications Through Fuzzing Techniques.

- Performed an empirical study of robustness in top 100 Google Play Store applications.
- Studied various fuzz testing applications and relevant mobile fuzz techniques.
- Evaluated fuzz testing results and software bugs on multiple emulators and physical devices.
- Coordinated a team of four students to meet deadlines and pursue goals of the study.

SUMMER RESEARCH OPPORTUNITIES PROGRAM, East Lansing, MI

Summer 2018

Summer Research Intern, Michigan State University, Faculty Mentor: Dr. Guan-Hua Tu.

Project Title: The Design and Implementation of a Low-Cost Bitcoin Vending Machine.

- Engaged in 10 week residential program for students interested in graduate study.
- Developed a proof-of-concept, low-cost vending machine and server to carry out fast Bitcoin transactions.
- Utilized microcontroller within vending machine to communicate with server and verify transactions.
- Presented research at campus-wide symposium (July 2018).

TEACHING EXPERIENCE

BRIDGE TO ENTER ADVANCED MATHEMATICS (BEAM), New York, NY

Summer 2019

Counselor and Teaching Assistant, Will begin July 2nd through August 13th 2019.

- Introduce groups of marginalized six and seventh grade students to mathematics above middle school requirements.
- Supervise students in the classroom and outside during social and educational activities.

- Work one-to-one and as a teaching assistant with students to introduce and improve their math skills.

CYBERSECURITY WORKFORCE ALLIANCE, New York, NY

Spring 2018

Teaching Assistant, John Jay College (CUNY).

- Worked with students on individual and small group basis to reinforce cybersecurity concepts.
- Motivated students to achieve personal and professional goals, complete assignments and improve performance.
- Facilitated discussion and addressed student grievances.

CODE ADVANTAGE, New York, NY

Fall 2017 - Spring 2018

Lead Instructor.

- Educated children ages six to eleven through computer science and robotics classes.
- Taught curriculum at four NYC public schools in six classes.
- Engaged a class of fifteen to twenty students with weekly projects.

LEADERSHIP AND WORK EXPERIENCE

COMPUTER SCIENCE SOCIETY, New York, NY

Spring 2018 - Present

President, Vice President (Spring '17 - '18), Member (Fall '15 - Present), John Jay College (CUNY).

- Leads student organization in professional, academic, and skill development events.
- Engages with students of various backgrounds, and internal and external organizations on event planning.
- Motivates club officers and members to stay on track and go beyond their roles.
- Creates and facilitates monthly agenda of events, meetings, student-led workshops, competitions, conference attendance, and technology-focused office tours.

JOHN JAY COLLEGE HONORS PROGRAM, New York, NY

Fall 2017 - Spring 2018

Peer Mentor.

- Guided ten incoming honors students in experiencing a successful and fruitful first year of college.
- Led the ten students in year-long community service project related to human trafficking.
- Served as a professional, personal, and academic role model.

CYBERSECURITY WORKFORCE ALLIANCE (CWA)

Spring 2017

Cyber Threat Analyst Intern, John Jay College (CUNY).

- Selected for a team mentored by key professionals to develop an insider threat program for the financial sector.
- Led the 6-student team to meet deadlines and exceed expectations for projects every week.
- Designed and communicated policies complying with regulatory cybersecurity requirements leveraging NIST CSF.
- Co-presented cybersecurity strategies about cybersecurity at the Federal Reserve Bank of New York.

EXTRACURRICULAR ACTIVITY

Member of John Jay Women in Technology at John Jay College **Present**

Fall 2017 -

Attends club meetings, events, and workshops, providing input on possible improvements to club experience.

Participant at Kaspersky Industrial CTF Competition

Fall 2018

Led team of four from John Jay College to complete challenges related to computer and network security.

Participant at PicoCTF Competition

Fall 2018

Led team from John Jay College to gain computer & network security skills from this high school competition.

Participant at CSAW Capture The Flag Competition

Fall 2018

Led team of four students from John Jay College to rank 130 out of 350 undergraduate teams at qualifying round.

Junior Representative at John Jay Honors Student Council

Fall 2017

Created community building events for the John Jay Honors Program.

Major League Hacking's Local Hack Day at John Jay College

Fall 2017

Hosted virtual hackathon for four teams of four participants from multiple CUNY colleges.

Fundraiser for RestoreNYC Campaign

Spring 2017

Raised more than \$2,500 for mothers of sex trafficking through social media, email outreach, and bake sales.

CUNY SmartPitch Competition at CUNY Startups

Spring 2017

Won third place out of 16 teams, developing a smartphone app to recommend restaurants based on specific menu items.

DuckDuckGo NYC Hackathon

Summer 2016

Collaborated with three developers to identify search engine improvements to DuckDuckGo's API.