

# HARRISON FERNANDEZ

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## EDUCATION

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### **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

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**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

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### **CAPSTONE EXPERIENCE IN CYBERSECURITY PART II (CSCI 401), New York, NY**

**Spring 2019**

*Student Researcher, John Jay College (CUNY), Faculty Advisor: Dr. Aftab Ahmad.*

Project Title: *Descript: A Machine Learning Approach to Deobfuscating Javascript Code.*

- Creates a machine learning tool aimed at deobfuscating both malicious and benign Javascript code.
- Collects numerous open-source code projects via Github, Bitbucket, Gitlab, and more.
- Researches state-of-the-art machine learning models to transform code.
- Drives team of four to exceed project goals and deadlines each week.

### **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 a new and advanced method of vulnerability discovery.
- Evaluates firmware images across multiple architectures and compilers.
- Experiments with several modern open-source source code abstraction techniques and 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

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### **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**

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**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**

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**Participant at CUNY IBM-Watson Social Impact Challenge****Spring 2019***Lead in team of three to develop idea and apply IBM tech and services to solve problems in government and education.***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.