HARRISON FERNANDEZ

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EDUCATION AND SKILLS

MICHIGAN STATE UNIVERSITY, East Lansing, MI **Expected May 2023**

Doctor of Philosophy, Computer Science

- Michigan State University Enrichment Fellowship (UEF) Recipient 2019 - Present.

JOHN JAY COLLEGE OF CRIMINAL JUSTICE (CUNY), New York, NY

Bachelor of Science, Computer Science and Information Security **Expected May 2019**

- GPA 3.8, Dean's List 2015-2019.
- National Science Foundation STEM Scholarship Recipient 2018-2019.
- Honors & PRISM Program - Participated in leadership and research development program.

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.

EXPERIENCE

BRIDGE TO ENTER ADVANCED MATHEMATICS (BEAM), New York, NY **Summer 2019**

Counselor and Teaching Assistant.

- Introduces groups of marginalized six and seventh grade students to mathematics above middle school requirements.
- Supervises students in the classroom and outside during social and educational activities.
- Works one-to-one and as a teaching assistant with students to introduce and improve their math skills.

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.

- Developed a new method of vulnerability discovery utilizing both source and binary code.
- Performed a survey of state-of-the-art source code clone discovery techniques.
- Evaluated source code clones across four open source projects and large database of firmware images.

PROGRAM FOR RESEARCH INITIATIVES (PRISM), New York, NY **Summer 2018 - Spring 2019**

Student Researcher, John Jay College (CUNY), Faculty Mentor: Dr. Sven Dietrich.
Project Title: Towards Vulnerable Binary Code Clone Detection through Firmware Lineage.

- Developed an advanced method of vulnerability discovery in binary code.
- Evaluated firmware images across multiple architectures and compilers.
- Experimented with several binary disassemblers.

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.

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, culminating in campus-wide symposium poster presentation (July 2018).
- 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.

COMPUTER SCIENCE SOCIETY, New York, NY **Fall 2015 - Spring 2019**

President (Fa '18 - Spr '19, Vice President (Fa '17 - Spr '18), Member (Fa '15 - Spr '19), John Jay College (CUNY).

- Led student organization in professional, academic, and skill development events.
- Created and facilitated monthly agenda of events, meetings, student-led workshops, competitions, and office tours.