JACKSON WEST

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RESEARCH INTERESTS

Security and Privacy

EDUCATION

University of Wisconsin-Madison *June 2022 - Present*
PhD in Computer Science Cumulative GPA: 4.0/4.0
Department of Computer Science
Advisors: Kassem Fawaz and Suman Banerjee

Loyola University Chicago *August 2020 - May 2022*
MS in Computer Science Cumulative GPA: 4.0/4.0
Department of Computer Science
Advisors: Neil Klingensmith and George K. Thiruvathukal

Loyola University Chicago *August 2016 - May 2020*
BS in Computer Science and Mathematics (Double Major) Cumulative GPA: 3.52/4.0
Department of Computer Science

PUBLICATIONS

West, Jackson. Randomness Distillation to Improve Key Quality for Context-Based Authentication Schemes. Diss. Loyola University Chicago, 2022. (Master's Thesis)

West, Jack, et al. "Are You Really Muted?: A Privacy Analysis of Mute Buttons in Video Conferencing Apps." Proceedings on Privacy Enhancing Technologies (2022).

Veselsky, Jakob, et al. "Establishing trust in vehicle-to-vehicle coordination: a sensor fusion approach." 2022 2nd Workshop on Data-Driven and Intelligent Cyber-Physical Systems for Smart Cities Workshop (DI-CPS). IEEE, 2022.

Lee, Kyuin, et al. "AEROKEY: Using Ambient Electromagnetic Radiation for Secure and Usable Wireless Device Authentication." Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies 6.1 (2022): 1-29.

West, Jack, et al. "Moonshine: An Online Randomness Distiller for Zero-Involvement Authentication." Proceedings of the 20th International Conference on Information Processing in Sensor Networks (co-located with CPS-IoT Week 2021). 2021.

West, Jack, Neil Klingensmith, and George K. Thiruvathukal. "FLIC: A Distributed Fog Cache for City-Scale Applications." 2020 IEEE International Conference on Fog Computing (ICFC). IEEE, 2020.

AWARDS AND HONORS

Research Assistant, University of Madison-Wisconsin, August 2022

Dijkstra Award, Loyola University Chicago, May 2022

ACM Graduate Student Research Award 3rd Place, ACM CPSIoT Week 2021, May 2021

Teaching Assistant, Loyola University Chicago, August 2020

Departmental Honors, Loyola University Chicago, May 2020

Cum Lade, Loyola University Chicago, May 2020

Outstanding Undergraduate Researcher, Loyola University Chicago, April 2020

RESEARCH AND TEACHING EXPERIENCE

University of Wisconsin-Madison Madison, WI
Department of Computer Science *August 2022-Present*

- Researched privacy concerns pertaining to video conferencing applications.
- A member of the WI-PI security lab
- Examined several applications in all operating systems using binary analysis tools.
- Wrote binary injectors in C using DyanamoRIO.

Loyola University of Chicago Chicago, IL
Department of Computer Science *January 2019-August 2022*

- Lead a team of undergraduates for two research projects. I guided over 6 students who were new to Linux and python.
- Simulated Fog computational network within Docker In Python3. Within the fog network, I wrote code to automatically spawn a nodes that work together within a docker context.
- Wrote a bit extraction algorithm for a cryptography project. The algorithm was written first in python, then in C.
- Wrote a key reconciliation algorithm based on Reed-Solomon codes in C.
- Examined the binary of several executables with IDA Pro and x64dbg.
- Examined network traffic of several applications using Wireshark.
- Researched exploits in the Windows 10 Operating system such as API hooks and anti-debug detection.

Loyola University of Chicago Chicago, IL
Teaching Assistant for the Department of Computer Science *January 2020-Present*

- Assisted with the classes, Introduction to computer systems and Operating systems.
- Lectured about C programming basics, dynamic memory allocation, mathematical concepts like binary conversions and Boolean algebra.
- Held weekly office hours where students asked questions about the week's work.
- Wrote homework assignments and made helpful tutorial videos for the sake of the students.

Loyola University of Chicago Chicago, IL
Department of Mathematics *March 2018-August 2020*

- Wrote code in python designed to examine Non-local mean curvature.
- I wrote a dynamic library on top of Sci-py to evaluate theoretical integrals.
- Wrote bare bone implementations of basic calculus concepts to experiment and parallelize certain operations.

Argonne National Lab Lemont, IL
Waggle Research Team *June 2019 - August 2019*

- I simulated deployment of software in a docker container. Then ran tests to determine functionality of the device.
- I also built a new logging system inside the nodes. The logging system was built in C and python such that, messages could be exchanged from the hardware over the network.
- I wrote a report about my work that is published along with all other summer research students students.

EXTRACURRICULAR ACTIVITIES

Software System Labs *August 2019 - Present*
Student Founder and Leader

Loyola Hacking Team *August 2020 - March 2020*
Competitor in the Hack the Box, and National Cyber League

Programming Team *August 2018 - January 2019*
Competitor

SKILLS

Programming skills:
C, Python3, Python2.7, LaTex, Java, C#,C++,Bash
Operating Systems:
Windows 7, Windows 10, Linux (Arch and Debian)
Software Tools:
IDA Pro, x64dbg, Visual Studio code, Android Studio, VirtualBox