
Education

CARNEGIE MELLON UNIVERSITY

Master of Science in Information Security Policy & Management|

Pittsburgh, Pennsylvania

August 2023 - May 2025

RENSSELAER POLYTECHNIC INSTITUTE

Bachelor of Science in Computer Science

Bachelor of Science in Physics

Troy, New York

September 2018 - May 2023

Relevant Low-Level Computing CS Courses: Secure Computer Systems, Operating Systems, Numerical Computing, Dynamic Behavior Python Programming

Skills

- **Programming Languages:** C, C++, Java, JavaScript, TypeScript, Python, SQL, Objective-C
 - **Team Collaboration:** Effective communicator and team player, contributing to the success of large, diverse teams.
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Project and Research Experiences

Low Level Cache Exploitation, x86 L2 Cache (CMU) ([repo](#))

Jan 2024 - Feb 2024

Developer

- Developed Prime+Probe LLC attack using C and x86 assembly.
- Developed Flash+Reload LLC attack using C and x86 assembly.
- Created “pointer chasing” to efficiently locate eviction sets.

Personal Data Manager Notebook (PDM)

Fall 2019 - Present

Developer & Back-end Developer

- Enhanced the performance of the multithreaded 256-bit encryption library in C++ by 180%.
- Contributed **3200+ GitHub commits** to this open-source project, released under GPL 3 on GitHub.

Angular Web Application ([Website](#) | [GitHub](#))

Fall 2019 - Present

Developer & Back-end Developer

- Engineered a robust application using TypeScript with WebAssembly to meet encryption algorithm and end-to-end encryption requirements.
- Administered and sustained the server infrastructure using Tomcat and Nginx.
- Designed backend servers ensuring end-to-end encryption, enhancing data security.

QT Cross-platform Desktop Application ([GitHub](#))

Fall 2019 - Present

Developer

- Developed the QT desktop application for PDM notes using C++ that communicates with the same servers.
- Implemented custom encrypted SQLite for end-to-end encryption services, enhancing application security.

Research, Rensselaer Polytechnic Institute

June 2021- May 2022

Researcher & First Author

- Authored a paper and won an award at the 2022 IEEE 19th International Conference on Mining Software Repositories (MSR).
 - Developed data mining software using C++, Python, and SQL, analyzing over 20,000 Python GitHub repositories.
 - Built machine learning models to predict Python project's dynamic feature usages with 92% accuracy.
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Other Experiences

BenTeng Media Group

Hohhot, Inner Mongolia, China

Media company/TV station with over 1 million followers on multiple media platforms

June 2023 - August 2023

Head Editor, Writer

- Led teams of 4 ~ 6 people with varying technical and age backgrounds to conduct interviews and shoot footage on short business trips
 - Wrote and published articles regarding city-wide events and news including civil disputes, agriculture, and nature science
 - Created and edited multiple official TV news segments on a wide variety of topics
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Publications

Yi Yang, Ana Milanova, Martin Hirzel. "Complex Python Features in the Wild." 2022 IEEE/ACM 19th International Conference on Mining Software Repositories (MSR), Page 282, May 2022