

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 Courses: Network Science, Cryptography and Network Security, Database Systems, Application Programming Using Java, Operating Systems, Numerical Computing, Dynamic Behavior Python Programming, Data Structures.

Skills

- **Programming Languages:** Proficient in C, C++, Java, JavaScript, TypeScript, Python, SQL, Objective-C, among others.
- **Server/Client Interaction:** Extensive knowledge and hands-on experience in developing, running, and maintaining servers, with a focus on live database and Linux system interactions.
- **Application Development:** Comprehensive experience in building client applications from scratch, specializing in QT, React Native, Angular, and more
- **Team Collaboration:** Effective communicator and team player, contributing to the success of large, diverse teams.
- **Cost-Effectiveness Analysis:** Proficient in evaluating the cost-effectiveness of various server applications and client implementations.

Project and Research Experiences

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 **2200+ 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.

React Native Cross-platform Mobile Application ([GitHub](#))

Fall 2019 - Present

Developer

- Developed a React Native mobile application for iOS and Android, incorporating Swift, Java, TypeScript, and encrypted local persistent data stores.
- Implemented the encryption library and compiled binaries for each platform.

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.
- Constructed a database to efficiently analyze over 2.8 million deconstructed source code files.

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

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