

Shenglong Yao

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Education Background

City University of Hong Kong

Bachelor of Science in Computer Science

Expected May 2023

- WES GPA: **3.96/4.0**, CGPA: **4.11/4.3**, Major GPA: **4.22/4.3**, Rank: **Top 3**
- HKSAR Government Scholarship (**Highest Honor for Academic Performance**)
- Asia-Pacific Economic Cooperation Scholarship
- Dean's List of College of Engineering 2019-2020 SemA, 2019-2020 SemB, 2020-2021 SemA, 2020-2021 SemB, 2021-2022 SemB

Research Experience

Bruiser: A Crowd Sourcing Browser to Generate Seeds for Browser Fuzzing

Project Leader

Jun 2022 ~ Present

Supervisor: **Prof. Christopher Kruegel** and **Prof. Giovanni Vigna**

- Constructing a browser which can collect code coverage information and corresponding webpage information during runtime usage
- Generating seeds through the analysis of collected information of bruiser usage

A Browser Extension Front-end Client for Metadata Hiding E2EE Messaging System

Project Leader (Final Year Project)

Jun 2022 ~ Present

Supervisor: **Prof. Cong Wang**

- Filling the gap between a research prototype metadata hiding private messaging system and a practical metadata hiding private messaging application
- Providing an easy to use client for TEE based metadata hiding E2EE messaging system which takes remote attestation, dialing and cover traffic generation into consideration

Proof of Unlearning: Definitions and Instantiation

Project Member, Second Author (submitted to **ACSAC 22**)

Mar 2022 ~ Jun 2022

Supervisor: **Prof. Cong Wang**

- Provided a Proof of Unlearning framework which ensure correctness and verifiability
- Provided a trusted hardware-empowered instantiation of the framework with SGX TEE

Fuzzing Evaluation Benchmark with Artificial Bug Corpora

Project Member

Nov 2021 ~ Present

Supervisor: **Prof. Cong Wang**

- Defining various bug difficulty metrics from exploration and exploitation perspective
- Providing a novel bug construction and insertion method to construct a fair ground-truth corpora of buggy program with diverse bug difficulty
- Evaluating various fuzzing methods with the corpora according to the self-defined evaluation difficulty metrics for exploration and exploitation

App Novel Problem Detection from App Review

Project Leader

Jun 2020~Jun 2021

Supervisor: **Dr. Jacky KEUNG** (Under Research Mentoring Scheme of CS Department)

- Utilized NLP technology to help developers solving the labor-intensive manual inspection of thousands of App reviews to retrieve app novel problems
- Provided an improved automated framework based on TF-IDF Text Model and BTM Topic Modeling to detecting novel problems from app reviews with better performance

Competitions / Extracurricular Activities

CTF Player (PWNer and REer)

Jan 2021 ~ Present

- Team Leader of CITYFHK CTF Team of City University of Hong Kong
- Member of Shellphish CTF Team
- Participated in the DEFCON Final 2022 with Shellphish
- Organized CITYF 21 CTF competition of City University of Hong Kong
- Led the CITYFHK team to get Rank 6 in PwC's HackaDay 2021
- Led the CITYFHK team to get Rank 9 in Tertiary Institution Category of Hong Kong Cyber Security New Generation Capture the Flag (CTF) Challenge 2021

Global AI Challenge for Building E&M Facilities of 2022

Nov 2021 ~ Mar 2022

- Supervised by **Prof. Joe Qin** and **Dr. Xiangyu Zhao**
- Team member in charge of Autogluon baseline model implementation
- Won Grand Prize: Microsoft Outstanding AI Influencer Award and Gold Award (Total \$13000 Award)
- Produced a research paper: *A Statistical Learning Dynamic Model for Cooling Load Prediction* based on the method used in the competition

AWS Educate Student Ambassador

Jan 2022 ~ Present

- Learning the AWS Cloud Fluency Course of AWS Educate
- Promoting AWS Service to university students

Work Experience

Full Time Research Internship

SecLab, UCSB

Jun 2022 ~ Present

- Supervised by **Prof. Christopher Kruegel** and **Prof. Giovanni Vigna**

Full Time Research / Technical Assistant

Department of Computer Science, City University of Hong Kong

Jul 2021 ~ Jul 2022

- Supervised by **Prof. Cong Wang**

Skills & Qualification

- **Programming Language:** C/C++, Java, Python, JavaScript
- **Hacking:** Master proficient skills in binary exploitation (PWN) and web hacking
- **Back-end Operation:** Good Knowledge of Linux, Cloud Computing and Server / Container Management
- **Artificial Intelligence:** Good knowledge of Machine Learning and Deep Learning, Competition experience in data wrangling and model training
- **ML & Security:** Knowledge in Machine Learning Robustness and Adversarial Attack
- **Program Analysis:** Skills in common static and dynamic software analysis tools such as Intel Pin and LLVM