

HAOBIN CHEN

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EDUCATION

Nankai University, Tianjin, China

2019-2023(Expected)

B.Sc in Information Security

Overall GPA: 3.67/4.0(87.78%, Top 10%)

Core Courses

Data Structures (4.0/4.0), Java Programming Language (4.0/4.0), High-Level Programming Language (C++, 4.0/4.0), Operating System (4.0/4.0), Computer Organisation and Design (4.0/4.0), Database System (4.0/4.0), Cryptography (4.0/4.0), Security Protocols and Its Design (4.0/4.0), IoT Security (4.0/4.0)

RESEARCH INTERESTS

Computer Security; Data Privacy; Applied Cryptography; Security Protocols

RESEARCH EXPERIENCES

Hybrid Protection for Data Privacy

September 2020 -

Advised by: Prof. Zheli Liu

Nankai University & Huawei Inc., Tianjin, China

- Designing more advanced cryptographic primitives including oblivious RAM, oblivious data structures as the storage engine for relational databases.
- Designing searchable encryption for cloud storage.
- Collaborating with Huawei Inc. in making theoretical models and encryption schemes practical and viable in real-world products.
- Proposed novel ORAM constructions with the support of Intel SGX technology.
- Proposed novel encryption schemes for encrypted databases with frequency-smoothing technique.
- Learning techniques of multiple party computation (MPC).

Intelligent Service Platform for Residential Communities

March 2021 - Dec 2021

Advised by: Prof. Peng Mie

Donghui Dongrui Community, Tianjin, China

- Aiming at solving the real-world problems faced by communities consisting of senior residents.
- Developing an online platform that provides residents with one-stop services to make their lives more convenient.
- Focusing on deploying the encrypted database as the data storage and secure encryption schemes to ensure data privacy for sensitive information.

TECHNICAL STRENGTHS

Website

HTML5, CSS, JavaScript, and Bootstrap

Typesetting Document

Latex

Programming

C/C++ (Proficient), Makefile, Shell, Java, Python, PHP, Bash (by proficiency)

Frameworks

Google Remote Procedure Call (gRPC), Intel Software Guard eXtension (SGX), Yii2, SpringBoot, Yara

Platforms

Linux Programming (proficient) and shell commanding

Softwares

Git, IDA Pro, OllyDbg, WinDbg,

HONORS AND AWARDS

- 2021 The 3rd prize at the **National College Student Information Security Contest**, Shandong University (Highest undergraduate contest for information security < 8%)
- 2021 **Nankai Excellent Community Immersion Project** (< 10%)
- 2021 **Nankai Academically Excellent Student Scholarship** (Awarded to undergraduate students with excellent academic performance, < 5%)
- 2021 **Nankai Innovation Award of Technology and Research Scholarship** (Awarded to undergraduate students with outstanding research potential, < 3%)
- 2021

PROJECTS

- 1 FH-CryptDB (Frequency-smoothing encrypted database).
Link: https://github.com/hiroki-chen/FH_cryptDB
- 2 SSE-SEAL: An implementation of the paper *Demertzis et al. SEAL: Attack Mitigation for Encrypted Databases via Adjustable Leakage*.
Link: <https://github.com/hiroki-chen/SSE-SEAL>
- 3 SO₂: A recursive doubly oblivious RAM model based on Intel SGX technology.
Link: <https://github.com/hiroki-chen/SGXOram>
- 4 Partial implementations for inference attacks against encrypted databases.
Link: <https://github.com/hiroki-chen/FrequencyAttack>
- 5 A compiler for C-like language.
Link: <https://github.com/hiroki-chen/NKUCompiler>
- 6 Grassroots community intelligent service platform. In **Nankai Innovation Research Project**.

LANGUAGE SKILLS

iBT-TOEFL (Reading: 30, Listening: 27, Writing: 27, Speaking: 27)

GRE (Verbal Reasoning: 162, Quantitative Reasoning: 168, Analytical Writing: 4)