HAOBIN CHEN

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EDUCATION

Nankai University, Tianjin, China *2019-2023(Expected)*
B.Sc in Information Security

Overall GPA: 3.65/4.0(87.4%, 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), Compiler Design (4.0/4.0), Computer Virus and Its Countermeasures (4.0/4.0)

RESEARCH INTERESTS

Computer Security; Data Privacy; Applied Cryptography; Database Design; Software Engineering

RESEARCH EXPERIENCES

Hybrid Protection for Data Privacy September 2020 - Present on Clouds
Advised by: Prof. Zheli Liu *Nankai University, Tianjin, China*

- Designing more advanced cryptographic primitives including oblivious RAM, oblivious data structures as the storage engine for relational databases.
- 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 databased with frequency-smoothing technique.

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.

Low-level system security research July 2022 - Dec 2022
okok *Alibaba Inc., Beijing, China*

- Maybe

TECHNICAL STRENGTHS

Website	HTML5, CSS, JavaScript, and Bootstrap
Typesetting Document	Latex
Programming	C/C++ (Proficient), Makefile, Java, Python, PHP, Bash (by proficiency)
Frameworks	Google Remote Procedure Call (gRPC), Intel Software Guard eXtension (SGX), Yii2, SpringBoot
Platforms	Linux Programming (proficient) and shell commanding

PUBLICATIONS

Haobin Chen, Siyi Lv, Zheli Liu. SO_2: SGX-Based Doubly Oblivious RAM with Recursion. *In Proceedings of* the 46th ACM SIGSAC Conference on Computer and Communications Security (**CCS'23**).

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 SO_2: 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 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)