

# Huang Chenxi

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## Short Bio

Huang Chenxi is currently pursuing her Master's degree in Intelligent Systems at the National University of Singapore. Her work is focused on federated learning, data privacy, machine learning and their applications. Further research interests include efficient trusted computing, as well as secure domain adaptation.

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## Education

### National University of Singapore

#### Master of Technology in Intelligent System

Thesis: "Shuffled Differentially Private Federated Learning for Time Series Data Analytics"

Supervision headed by [Dr. Zhenghua Chen](#).

SINGAPORE  
Aug '22 – today

### Northeastern University

#### Bachelor of Engineering in Software Engineering (GPA 89/100, top 15%)

Thesis: "Local differentially private federated learning with homomorphic encryption"

Supervision headed by [Dr. Jianzhe Zhao](#).

LIAONING, CHINA  
Sep '18 – Jul '22

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## Publications

1. **Chenxi Huang**, Chaoyang Jiang, Zhenghua Chen (2023).  
"Shuffled Differentially Private Federated Learning for Time Series Data Analytics".  
In: *Proceedings of the 2023 IEEE 18th Conference on Industrial Electronics and Applications (ICIEA)* 1023–1028
2. Jianzhe Zhao, **Chenxi Huang**, Wenji Wang, Rulin Xie, Rongrong Dong, Stan Matwin (2023).  
"Local differentially private federated learning with homomorphic encryption".  
In: *The Journal of Supercomputing* 1573–0484
3. Bowen Zheng, **Chenxi Huang**, Yuemei Luo (2023).  
"Towards Head Computed Tomography Image Reconstruction Standardization with Deep Learning Assisted Automatic Detection".  
In: *arXiv: 2307.16440*. (Accepted by *IEEE Transactions on Instrumentation & Measurement*)
4. JianZhe Zhao, XingWei Wang, KeMing Mao, **ChenXi Huang**, YuKai Su, YuChen Li (2022).  
"Correlated Differential Privacy of Multiparty Data Release in Machine Learning".  
In: *Journal of Computer Science and Technology* 37: 231–251
5. Jianzhe Zhao, Keming Mao, **Chenxi Huang**, Yuyang Zeng (2021).  
"Utility Optimization of Federated Learning with Differential Privacy".  
In: *Discrete Dynamics in Nature and Society* 3344862

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## Internship

### Agency for Science, Technology and Research (A\*STAR)

#### Research Intern

Machine Intelligence Department, [Institute for Infocomm Research \(I<sup>2</sup>R\)](#)

Work towards the federated learning, machine learning, privacy-preserving computation, e.g., Differential Privacy and Homomorphic Encryption against multiple attacks (e.g. Model Inversion and Poisoning) under federated setting on multimedia content and sensor data.

SINGAPORE  
Oct '22 – today

### JD.com, Inc.

#### Test Development Engineer

Developed an Automated Test Platform for streamlined interface use-case testing, utilized daily by over 100 internal employees. Developed a product that simulates banking business scenarios for PaaS middleware demonstration. Implemented 19 front-end web pages and 26 functional capabilities.

BEIJING, CHINA  
May '21 – Jul '21

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## Skills and Toolset Experience

**Technical:** Python (Tensorflow, PyTorch, ...), Java, Linux, bash, git, HTML, SQL, JavaScript.

**Machine Learning:** Development, application and evaluation of, e.g., DNNs, GANs, processing pipelines.

**Domain Knowledge:** text, audio, video, images, time series and medical data.

**Natural languages:** Mandarin (*native*), English (*IELTS 7.0*)