Ye Dong (董业 in Chinese)

Curriculum Vitae

I am serving as Research Fellow at *iTrust Lab, Singapore University of Technology and Design*, hosted by *Prof. Jianying Zhou* and *Prof. Sudipta Chattopadhyay*. I got my Ph.D. degree in Cyberspace Security with Outstanding Graduation Award at the Institute of Information Engineering, Chinese Academy of Sciences (CAS) and School of Cyber Security, University of Chinese Academy of Sciences (UCAS), under *Prof. Xiaojun Chen*. I got my bachelor's degree from the School of Computer Science and Technology, Shandong University, where I had been a Research Assistant at the Cryptography and Privacy Computing Laboratory under *Prof. Qiuliang Xu* & *Prof. Han Jiang*.

Personal Data

Email `19950512dy@gmail.com`.

Web `https://ye-d.github.io/`.

Research Topics

Secure Multiparty Computation

Familiar **Secret Sharing, Oblivious Transfer**.

Basic **Garbled Circuits, Homomorphic Encryption**.

Security and Privacy of Machine (Deep) Learning

Familiar **MPC-based ML/DL, Secure Federated Learning**.

Basic **Robust Federated Learning, Attacks & Privacy Leakages, Quantization Technologies**.

Education

Sep. 2018 – June. 2023 **Ph.D. in Cyberspace Security**, *Institute of Information Engineering, Chinese Academy of Sciences & School of Cyber Security, University of Chinese Academy of Sciences*, Beijing, China.

Sep. 2014 – June. 2018 **Bachelor in Computer Science and Technology**, *Shandong University*, Jinan, Shandong.

Sep. 2015 – June. 2016 **Exchange Student**, *School of Computer, Beijing Institute of Technology*, Beijing, China.

Theses

Ph.D. Thesis (Institute of Information Engineering, CAS; June. 2023)

Title *Research on Key Technologies of Practical Secure Multi-Party Computation in Deep Learning*

Supervisors Xiaojuen Chen

Bachelor Thesis (Shandong University; June. 2018)

Title *Privacy-Preservation and Mining of Zcash*

Supervisor Han Jiang

Previous Experience

Teaching & Work

Jan. 2024 – *Present* **Research Fellow**, *iTrust Lab, Singapore University of Technology and Design*, Singapore.
IoT Security, Hosted by *Prof. Prof. Jianying Zhou* and *Prof. Sudipta Chattopadhyay*.

Sep. 2023 – Oct. 2023 **Research Assistant**, *Institute for Artificial Intelligence and the School of Integrated Circuits, Peking University*, Beijing, China.
Private Inference of Quantized Neural Networks, Hosted by *Prof. Meng Li*.

Apr. 2023 – July. 2023 **Research Intern**, *Ant Cryptograhpy & Privacy Lab, Ant Group*, Beijing, China.
Practical Cryptographic Techniques, Hosted by *Dr. Cheng Hong*.

Summer. 2021 & 2022 **Teaching Assistant**, *University of CAS*, Beijing, China.
Big Data Security and Privacy-Preserving

Mar. 2022 – Sep. 2022 **Research Intern**, *PRIMITIVE HUB*, Beijing, China.
Consultancy services on Multi-Party Computation and related technologies

Oct. 2016 – June. 2018 **Research Assistant**, *Network and Information Security Lab, Shandong University*, Jinan, China.

Supervisor Prof. Qiulaing Xu & Prof. Han Jiang

Community Service

Program Committee **PETS'2025**.

Conf. Reviewer **WWW'2025, PETS'2025, ICME'2024, CVPR'2022, FCS'2020**.

Journal. Reviewer **TDSC, TIFS, IEEE Systems Journal, Cybersecurity**.

Others

Jul. 2024 **Volunteer**, *AsiaCCS*, In-Person, Singapore.
Volunteer and Attend the AsiaCCS 2024

Jul. 2022 **Attendance**, *DAC*, Hybrid Conference, Co-author.
Attend the 59th Design Automation Conference

May. 2021 **Attendance**, *CCF-YEF*, Shenyang, China.

Sep. 2020 **Attendance**, *ESORICS*, Online Conference, Co-author.
Attend the 25th European Symposium on Research in Computer Security

Languages

Chinese Native

English Fluent

Computer Skills

OS	Linux, Windows, MacOX	Typography	LaTeX, Microsoft Office, Markdown
Scientific	Octave, Pytorch, Tensorflow	Programming	Python, C, C++, Shell

Open-Source Projects

CryptoFL **Cryptographically Secure Aggregation for Federated Learning**.
`https://github.com/Ye-D/CryptoFL`

METEOR **Improved Secure 3-Party Neural Network Inference with Reducing Online Communication Costs**.
`https://github.com/Ye-D/Meteor`

PUMA **Secure Inference of LLaMA-7B in Five Minutes**.
`https://github.com/AntCPLab/puma_benchmarks`

Awesome Lists

PPML-Resource **Privacy-Preserving-Machine-Learning-Resources** .
`https://github.com/Ye-D/PPML-Resource`

APC **Awesome Privacy Computing** .
`https://github.com/primihub/Awesome-Privacy-Computing`

Awards

2023 **Outstanding Ph.D. Graduate Award**, *IIE, CAS*.

2023 **CAS Presidential Scholarship (Excellent Prize)**, *CAS*.

2020 & 2021 **Merit Student Award**, *University of CAS*.

2020 **Institute Excellence Award**, *Institute of Information Engineering, CAS*.

2016 **Exchange Campus Scholarship**, *Shandong University*.

2015 **School Scholarship**, *Beijing Institute of Technology*.

2014 – 2018 **School Scholarships**, *Shandong University*, Multiple Times.

Talks

May. 2023 **Meteor: Improved secure 3-party neural network inference with reduc- ing online communication c**, *WWW 2023*, Austin, USA.

Oct. 2021 **FLOD: Oblivious Defender for Private Byzantine-Robust Federated Learning with Dishonest-Majority**, *ESORICS 2021*, Virtual Conference.

Dec. 2019 **Privacy-Preserving Distributed Machine Learning Based on Secret Sharing**, *ICICS 2019*, Beijing, China.

Publications

1. Tingyu Fan, Xiaojun Chen, Ye Dong, Xudong Chen, and Weizhan Jing. Lightweight secure aggregation for personalized federated learning with backdoor resistance. In ***Annual Computer Security Applications***

Conference (ACSAC), CORE Rank A, CCF Rank B, 2024.

2. Qifan Wang, Shujie Cui, Lei Zhou, Ye Dong, Jianli Bai, Yun Sing Koh, and Giovanni Russello. Gtree: Gpu-friendly privacy-preserving decision tree training and inference. In *23rd IEEE International Conference on Trust, Security and Privacy in Computing and Communications, TrustCom, CORE Rank B, CCF Rank C*, 2024.

3. Min Ma, Yu Fu, Ye Dong, Ximeng Liu, and Kai Huang. Podi: A private object detection inference framework for autonomous vehicles. *Knowledge-Based Systems*, *CORE Rank C, CCF Rank C*, 301:112267, 2024.

4. Qiang Liu, Xiaojun Chen, Weizhan Jing, and Ye Dong. An effective multiple private set intersection. *20th EAI International Conference on Security and Privacy in Communication Networks (EAI SecureComm), CORE Rank C, CCF Rank C*, 2024, Accepted.

5. Tingyu Fan, Xiaojun Chen, Ye Dong, Xudong Chen, and Weizhan Jing. Comet: Communication-efficient batch secure three-party neural network inference with client-aiding. *2024 IEEE International Conference on Communications (ICC): Communication and Information System Security Symposium - Communication and Information Systems Security, CORE Rank B, CCF Rank C*, 2024, Accepted.

6. Xudong Chen, Xiaojun Chen, Ye Dong, Weizhan Jing, Tingyu Fan, and Qiang Liu. Roger: A round optimized gpu-friendly secure inference framework. *2024 IEEE International Conference on Communications (ICC): Communication and Information System Security Symposium - Communication and Information Systems Security, CORE Rank B, CCF Rank C*, 2024, Accepted.

7. Ye Dong, Wen-jie Lu, Yancheng Zheng, Haoqi Wu, Derun Zhao, Jin Tan, Zhicong Huang, Cheng Hong, Tao Wei, and Wenguang Cheng. Puma: Secure inference of llama-7b in five minutes. *arXiv preprint arXiv:2307.12533*, 2023, under revision.

8. Yuexin Xuan, Xiaojun Chen, Zhendong Zhao, Bisheng Tang, and Ye Dong. Practical and general backdoor attacks against vertical federated learning. In ***European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD), CORE Rank A, CCF Rank B***, 2023.

9. Ye Dong, Xiaojun Chen, Xiangfu Song, and Kaiyun Li. FlexBNN: Fast private binary neural network inference with flexible bit-width. ***IEEE Transactions on Information Forensics and Security (TIFS), CORE Rank A*, CCF Rank A***, 2023.

10. Ye Dong, Chen Xiaojun, Weizhan Jing, Li Kaiyun, and Weiping Wang. Meteor: Improved secure 3-party neural network inference with reducing online communication costs. In ***Proceedings of the ACM Web***

Conference (WWW), CORE Rank A*, CCF Rank A, New York, NY, USA, 2023. Association for Computing Machinery.

11. Liyan Shen, Ye Dong, Binxing Fang, Jinqiao Shi, Xuebin Wang, Shengli Pan, and Ruisheng Shi. Abnn^2: secure two-party arbitrary-bitwidth quantized neural network predictions. In ***Proceedings of the 59th ACM/IEEE Design Automation Conference, CORE Rank A, CCF Rank A***, pages 361–366, 2022.

12. Yiran Liu, Ye Dong, Hao Wang, Han Jiang, and Qiuliang Xu. Distributed fog computing and federated learning enabled secure aggregation for iot devices. *IEEE Internet of Things Journal*, 2022.

13. Zhendong Zhao, Xiaojun Chen, Yuexin Xuan, Ye Dong, Dakui Wang, and Kaitai Liang. Defeat: Deep hidden feature backdoor attacks by imperceptible perturbation and latent representation constraints. In ***Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition, CORE Rank A*, CCF Rank A***, pages 15213–15222, 2022.

14. Ye Dong, Xiaojun Chen, Kaiyun Li, Dakui Wang, and Shuai Zeng. Flod: Oblivious defender for private byzantine-robust federated learning with dishonest-majority. In ***European Symposium on Research in Computer Security, CORE Rank A, CCF Rank B***, pages 497–518. Springer, 2021.

15. Kaiyun Li, Xiaojun Chen, Ye Dong, Peng Zhang, Dakui Wang, and Shuai Zen. Efficient byzantine-resilient stochastic gradient descent. *FL-Workshop@IJCAI*, 2021.

16. Dong Ye, Hou Wei, Chen Xiaojun, and Zeng Shuai. Efficient and secure federated learning based on secret sharing and gradients selection. *Journal of Computer Research and Development (in Chinese)*, 57(10):2241, 2020.

17. Liyan Shen, Xiaojun Chen, Jinqiao Shi, Ye Dong, and Binxing Fang. An efficient 3-party framework for privacy-preserving neural network inference. In ***European Symposium on Research in Computer Security, CORE Rank A, CCF Rank B***, pages 419–439. Springer, 2020.

18. Ye Dong, Xiaojun Chen, Liyan Shen, and Dakui Wang. Eastfly: Efficient and secure ternary federated learning. *Computers & Security, CORE Rank B, CCF Rank B*, 94:101824, 2020.

19. Ye Dong, Xiaojun Chen, Liyan Shen, and Dakui Wang. Privacy-preserving distributed machine learning based on secret sharing. In *Information and Communications Security: 21st International Conference, ICICS 2019, Beijing, China, December 15–17, 2019, Revised Selected Papers 21, CORE Rank B, CCF Rank C*, pages 684–702. Springer, 2020.

20. Liyan Shen, Xiaojun Chen, Dakui Wang, Binxing Fang, and Ye Dong. Efficient and private set intersection of human genomes. In *2018 IEEE International Conference on Bioinformatics and Biomedicine (BIBM), short paper*, pages 761–764. IEEE, 2018.