

# Fei Wang

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## EDUCATION

**University of Toronto**, Toronto, ON, Canada

*Department of Electrical & Computer Engineering*

**Ph.D. Student**, Computer Engineering (transferred from M.A.Sc in Jan 2022)

Sep 2020 – present

- Cumulative GPA: 3.86/4.00

**Wuhan University**, Wuhan, Hubei, People's Republic of China

*Hongyi Honor College*

**B.Engr.**, Computer Science and Technology (with honors)

2016 – 2020

- Cumulative GPA: 3.80/4.00
- Rank: 4/34 (selected from 587 students in the School of Computer Science, Wuhan University)

## PUBLICATIONS

### JOURNALS & MAGAZINES

**Fei Wang**, Baochun Li, “Data Reconstruction and Protection in Federated Learning for Fine-Tuning Large Language Models,” in *IEEE Transactions on Big Data, Special Section on Pre-Trained Large Language Models, 2024 (JIF: 7.2)*.

**Fei Wang**, Ethan Hugh, Baochun Li, “More than Enough is Too Much: Adaptive Defenses against Gradient Leakage in Production Federated Learning,” in *IEEE/ACM Transactions on Networking, 2024 (JIF: 3.7)*.

**Fei Wang**, Baochun Li, “Harnessing the Power of Local Supervision in Federated Learning,” in *IEEE Transactions on Big Data, Special Issue on Federated Learning for Big Data Applications, 2024 (JIF: 7.2)*.

**Fei Wang**, Baochun Li, Bo Li, “Federated Unlearning and Its Privacy Threats,” in *IEEE Network, 2023 (JIF: 10.294)*.

**Fei Wang**, Baochun Li, Bo Li, “Quality-Oriented Federated Learning on the Fly,” in *IEEE Network, Special Issue on Federated Optimizations and Networked Edge Intelligence, vol. 36, no. 5, pp. 152–159, September–October 2022 (JIF: 10.294)*.

Salma Emara, **Fei Wang**, Baochun Li, Timothy Zeyl, “Pareto: Fair Congestion Control with Online Reinforcement Learning,” in *IEEE Transactions on Network Science and Engineering, vol. 9, no. 5, pp. 3731–3748, September–October 2022 (JIF: 5.033)*.

### CONFERENCES

Salma Emara, Daniel Liu, **Fei Wang**, Baochun Li, “Cascade: Enhancing Reinforcement Learning with Curriculum Federated Learning and Interference Avoidance — A Case Study in Adaptive Bitrate Selection,” in the *Proceedings of IEEE INFOCOM 2024 Workshop on Distributed Machine Learning and Fog Networks (FOGML), Vancouver, Canada, May 20-23, 2024*.

Baochun Li, Ningxin Su, Chen Ying, **Fei Wang**, “Plato: An Open-Source Research Framework for Production Federated Learning,” in the *Proceedings of ACM Turing Award Celebration Conference (TURC), Wuhan, China, July 28–30, 2023*.

**Fei Wang**, Salma Emara, Isidor Kaplan, Baochun Li, Timothy Zeyl, “Multi-Agent Deep Reinforcement Learning for Cooperative Edge Caching via Hybrid Communication,” in the *Proceedings of IEEE ICC 2023, Selected Areas in Communications — Machine Learning for Communications and Networking Track, Rome, Italy, May 28 – June 1, 2023*.

**Fei Wang**, Ethan Hugh, Baochun Li, “More than Enough is Too Much: Adaptive Defenses against Gradient Leakage in Production Federated Learning,” in the *Proceedings of IEEE INFOCOM 2023, New York Area, U.S.A., May 17–20, 2023 (acceptance rate: 19.2%, Best Paper Award)*.

Salma Emara, **Fei Wang**, Isidor Kaplan, Baochun Li, “Ivory: Learning Network Adaptive Streaming Codes,” in the *Proceedings of the 30th IEEE/ACM International Symposium on Quality of Service (IWQoS), Online, June 10–12, 2022 (acceptance rate: 24.3%)*.

### PATENTS

Zhenhua Hu, Timothy J. Zeyl, Salma Emara, Baochun Li, **Fei Wang**, “Method and Apparatus for Multiple Reinforcement Learning Agents in a Shared Environment,” July 6, 2023.

<b>TEACHING EXPERIENCE</b>	<p><b>Tutorial Teaching Assistant for APS105 – Computer Fundamentals (in C)</b> Winter 2024  Department of Electrical &amp; Computer Engineering, University of Toronto</p> <ul style="list-style-type: none"> <li>▪ Leading tutorial sessions on assigned problem sets</li> <li>▪ Assisting students with troubleshooting on Piazza</li> <li>▪ Invigilating and marking the midterm and final exams</li> </ul> <p><b>Teaching Assistant for ECE1771 – Quality of Service</b> Fall 2023  Department of Electrical &amp; Computer Engineering, University of Toronto</p> <ul style="list-style-type: none"> <li>▪ Grading critiques, midterm paper draft, and final course paper</li> <li>▪ Invigilating and marking the final exam</li> </ul> <p><b>Lab Teaching Assistant for APS105 – Computer Fundamentals (in C)</b> Winter 2022 &amp; Winter 2023  Department of Electrical &amp; Computer Engineering, University of Toronto</p> <ul style="list-style-type: none"> <li>▪ Providing support to students with their lab assignments</li> <li>▪ Grading lab assignments particularly on coding style</li> <li>▪ Invigilating and marking the final exam</li> </ul> <p><b>Developer Assistant for ECEH1S – ECE Project</b> Winter 2022  Department of Electrical &amp; Computer Engineering, University of Toronto</p> <ul style="list-style-type: none"> <li>▪ Developing a research database web application using Node.js with PostgreSQL</li> </ul>
<b>SKILLS</b>	<p>Programming/Scripting Language: Python, C, JavaScript, UNIX Shell Scripting, L<sup>A</sup>T<sub>E</sub>X, MATLAB  Platforms/Frameworks/Tools: PyTorch, NumPy, Matplotlib, Git, Linux (Ubuntu)</p>
<b>AWARDS &amp; HONORS</b>	<ul style="list-style-type: none"> <li>▪ Mary H. Beatty Fellowship, University of Toronto 2024 – 2025</li> <li>▪ School of Graduate Studies (SGS) Conference Grant, University of Toronto Winter 2024</li> <li>▪ IEEE INFOCOM 2023 Student Travel Grant 2023</li> <li>▪ Farid and Diana Najm Graduate Fellowship (received with professor’s nomination), University of Toronto 2023</li> <li>▪ IEEE ICNP 2022 Travel Grant 2022</li> <li>▪ The Edward S. Rogers Sr. Graduate Scholarship, University of Toronto 2020 – 2024</li> <li>▪ Outstanding Graduate at Wuhan University 2020</li> <li>▪ Special Overseas Scholarship, Wuhan University 2018 – 2020</li> <li>▪ Outstanding Student Scholarship, Wuhan University 2016 – 2019</li> </ul>