

Aoyu Gong

Contact Information Rue du Petit Rocher 6, 1003 Lausanne, Switzerland +41 79 657 71 50
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Educational Background **Doctor of Philosophy**, Networking Systems *Sep. 2024 – Present*

École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

- Advisor: [Prof. Haitham Hassanieh](#)

Master of Science, Communication Systems *Sep. 2021 – July 2024*

École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

- GPA: **5.76/6.00**

Bachelor of Engineering, Communication Engineering *Sep. 2015 – June 2019*

Nanjing University of Science and Technology, Nanjing, China

- GPA: **3.90/4.00**

Work Experience **Research Intern**, Network and Cloud Systems Research Group *Aug. 2023 – Feb. 2024*

Max Planck Institute for Informatics, Saarbrücken, Germany

- Topic: Understand short-form (TikTok/YouTube) video content using multimodal models

Research Assistant, Visual Intelligence for Transportation Laboratory *Mar. 2023 – May 2023*

École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

- Topic: Rethink traditional operations research problems with deep reinforcement learning

Selected Publications * stands for the equal contributions. A full list can be found [here](#).

11. [ICWSM](#) **Aoyu Gong**, Sepehr Mousavi, Yiting Xia, Savvas Zannettou, “ClipMind: A Framework for Auditing Short-Format Video Recommendations Using Multimodal AI Models,” to appear in *The 19th International AAAI Conference on Web and Social Media*, 2025
10. [TCOM](#) Yuqing Zhu, Yiwen Zhu, **Aoyu Gong**, Yan Lin, Yuan-Hsuan Lo, Yijin Zhang, “Age-Gain-Dependent Random Access for Event-Driven Periodic Updating,” to appear in *IEEE Transactions on Communications*, 2025
9. [MobiCom](#) Raphael Cannatà, **Aoyu Gong**, Arman Maghsoudnia, Dan Mihai Dumitriu, Haitham Hassanieh, “SliceGuard: Secure and Dynamic 5G RAN Slicing with WebAssembly,” in *Proceedings of the 30th Annual International Conference on Mobile Computing and Networking*, 2024
8. [HotNets](#) Arman Maghsoudnia, Eduard Vlad, **Aoyu Gong**, Dan Mihai Dumitriu, Haitham Hassanieh, “Ultra-Reliable Low-Latency in 5G: A Close Reality or a Distant Goal?,” in *Proceedings of the 23rd ACM Workshop on Hot Topics in Networks*, 2024
7. [SIGCOMM](#) Jialong Li, Haotian Gong, Federico De Marchi, **Aoyu Gong**, Yiming Lei, Wei Bai, Yiting Xia, “Uniform-Cost Multi-Path Routing for Reconfigurable Data Center Networks,” in *Proceedings of the ACM SIGCOMM 2024 Conference*, 2024
6. [TVT](#) **Aoyu Gong**, Yuan-Hsuan Lo, Yan Lin, Yijin Zhang, “Dynamic random access without observation under deadline-constrained periodic traffic,” *IEEE Transactions on Vehicular Technology*, vol. 73, no. 1, pp. 1503–1508, 2024
5. [TCOM](#) Yijin Zhang*, **Aoyu Gong***, Lei Deng, Yuan-Hsun Lo, Yan Lin, Jun Li, “Achieving maximum urgency-dependent throughput in random access,” *IEEE Transactions on*

Communications, vol. 71, no. 11, pp. 6435–6450, 2023

4. **TCOM** Jingwei Liu, Rui Zhang, **Aoyu Gong**, He Chen, “Optimizing age of information in wireless uplink networks with partial observations,” *IEEE Transactions on Communications*, vol. 71, no. 7, pp. 4105 – 4118, 2023
3. **TNSE** **Aoyu Gong**, Yijin Zhang, Lei Deng, Fang Liu, Jun Li, Feng Shu, “Dynamic optimization of random access in deadline-constrained broadcasting,” *IEEE Transactions on Network Science and Engineering*, vol. 10, no. 4, pp. 2059–2073, 2023
2. **GLOBECOM** **Aoyu Gong***, Tong Zhang*, He Chen, Yijin Zhang. “Age-of-information-based scheduling in multiuser uplinks with stochastic arrivals: A POMDP approach,” in *Proceedings of the 2020 IEEE Global Communications Conference*, 2020, pp. 1–6
1. **TCOM** Yijin Zhang, **Aoyu Gong**, Yuan-Hsun Lo, Jun Li, Feng Shu, Wing Shing Wong. “Generalized p -persistent CSMA for asynchronous multiple-packet reception,” *IEEE Transactions on Communications*, vol. 67, no. 10, pp. 6966–6979, 2019

Awards & Honors

- Best Demo Award** *Nov. 2024*
 - Awarded by ACM MobiCom '24
- EDIC Fellowship** *Feb. 2024*
 - Awarded by École Polytechnique Fédérale de Lausanne
- Provincial Best Bachelor Thesis Award** *Sep. 2020*
 - Awarded by Jiangsu Provincial Department of Education (across all disciplines)
- Bachelor of Engineering with Honors** *Jun. 2019*
 - Awarded by Nanjing University of Science and Technology (**top 5%**)
- NJUST Best Bachelor Thesis Award** *Jun. 2019*
 - Awarded by Nanjing University of Science and Technology (across all disciplines)
- National Scholarship** (Awarded Three Times) *Nov. 2018 / Nov. 2017 / Nov. 2016*
 - Awarded by Ministry of Education of the People’s Republic of China (**top 1%**)
- NJUST Special-Class Scholarship** (Awarded Six Times) *Mar. & Sep. 2018 / 2017 / 2016*
 - Awarded by Nanjing University of Science and Technology (**top 1%**)

Interests & Skills

Area of Interest:

- Networking Systems, Wireless Communication, Machine Learning, Stochastic Control

Computer Skills:

- C/C++, Python, MATLAB, VHDL