

Aoyu Gong

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| Contact | 📍 EPFL IC SENS, BC 118 (Bâtiment BC), 1015 Lausanne, Switzerland | ☎ +41 79 657 71 50 |
| Information | 🌐 Website 🏠 Scholar 📄 ResearchGate 🐙 GitHub 🔗 LinkedIn | ✉ aoyu.gong@epfl.ch |
| Educational Background | Doctor of Philosophy , Networking Systems <i>Sep. 2024 – Present</i> 🏛 École Polytechnique Fédérale de Lausanne , Lausanne, Switzerland <ul style="list-style-type: none">• Advisor: Haitham Hassanieh Master of Science , Communication Systems <i>Sep. 2021 – July 2024</i> 🏛 École Polytechnique Fédérale de Lausanne , Lausanne, Switzerland <ul style="list-style-type: none">• GPA: 5.76/6.00 Bachelor of Engineering , Communication Engineering <i>Sep. 2015 – June 2019</i> 🏛 Nanjing University of Science and Technology , Nanjing, China <ul style="list-style-type: none">• GPA: 3.90/4.00 | |
| Work Experience | Research Intern , Network and Cloud Systems Research Group <i>Aug. 2023 – Feb. 2024</i> 👛 Max Planck Institute for Informatics , Saarbrücken, Germany <ul style="list-style-type: none">• Topic: Understand short-form (TikTok/YouTube) video content using multimodal models Research Assistant , Visual Intelligence for Transportation Laboratory <i>Mar. 2023 – May 2023</i> 👛 École Polytechnique Fédérale de Lausanne , Lausanne, Switzerland <ul style="list-style-type: none">• Topic: Rethink traditional operations research problems with deep reinforcement learning | |
| Selected Publications | * stands for the equal contributions. A full list can be found here . | |
| | 12. OpenRIT6G '25 Aoyu Gong , Arman Maghsoudnia, Raphael Cannatà, Eduard Vlad, Néstor Lomba Lomba, Dan Mihai Dumitriu, Haitham Hassanieh, “ Towards URLLC with Open-Source 5G Software ,” <i>Proceedings of the 1st Workshop on Open Research Infrastructures and Toolkits for 6G</i> , 2025 | |
| | 11. TCOM Yuqing Zhu, Yiwen Zhu, Aoyu Gong , Yan Lin, Yuan-Hsuan Lo, Yijin Zhang, “ Age-Gain-Dependent Random Access for Event-Driven Periodic Updating ,” <i>IEEE Transactions on Communications</i> , vol. 73, no. 8, pp. 5774–5787, 2025 | |
| | 10. ICWSM '25 Aoyu Gong , Sepehr Mousavi, Yiting Xia, Savvas Zannettou, “ ClipMind: A Framework for Auditing Short-Format Video Recommendations Using Multimodal AI Models ,” in <i>Proceedings of the 19th International AAAI Conference on Web and Social Media</i> , 2025 | |
| | 9. MobiCom '24 Raphael Cannatà, Aoyu Gong , Arman Maghsoudnia, Dan Mihai Dumitriu, Haitham Hassanieh, “ SliceGuard: Secure and Dynamic 5G RAN Slicing with WebAssembly ,” in <i>Proceedings of the 30th Annual International Conference on Mobile Computing and Networking</i> , 2024 | |
| | 8. HotNets '24 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 <i>Proceedings of the 23rd ACM Workshop on Hot Topics in Networks</i> , 2024 | |

7. **SIGCOMM '24** 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 '20** **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
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

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

Interests & Skills

Area of Interest:

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

Computer Skills:

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