Qingyun Wu

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RESEARCH INTEREST Machine Learning, with a particular focus on Reinforcement Learning and Automated Machine Learning.

APPOINTMENT **Postdoc Researcher** at **Microsoft Research** New York City, NY, U.S.A
08/2020 - 2021.07
Host: John Langford and Sham Kakade

EDUCATION **University of Virginia** Charlottesville, VA, U.S.A
Ph.D candidate, Department of Computer Science 08/2014 - present
Advisor: Hongning Wang
Ph.D Thesis: Interactive online learning from incomplete knowledge

Xidian University Xi'an, China
B.E, Department of Telecommunications Engineering 08/2010 - 07/2014

RESEARCH EXPERIENCE **Research Assistant at the University of Virginia** 08/2014 - present
Thesis topic: Interactive Online Learning with Incomplete Knowledge

- Advisor: Hongning Wang

Research Intern at Microsoft Research 05/2019 - 08/2019
Worked on a research project on Automated Machine Learning (AutoML) in data management, exploration and mining (DMX) Lab of Microsoft Research

- Mentor: Chi Wang

Research Intern at Adobe Research 02/2019 - 05/2019
Worked on a research project on efficient exploration of prior information to conquer the cold-start problem in recommender systems.

- Mentors: Georgios Theocharous, Zheng Wen, Yasin Abbasi−Yadkori

Research Intern at Yahoo Research 05/2016 - 08/2016
Worked on a research project about long-term user engagement optimization in news recommendation.

- Mentors: Liangjie Hong, Yue Shi

PREPRINTS

[1] Chi Wang, **Qingyun Wu**, Markus Weimer, Erkang Zhu. FLAML: A Fast and Lightweight AutoML Library. arXiv:1911.04706, 2020.
(Open-sourced at `https://github.com/microsoft/FLAML`)

PUBLICATIONS

[1] **Qingyun Wu***, Chi Wang*, and Silu Huang. Frugal Optimization for Cost-related Hyperparameters, AAAI, 2021 (to appear).

[2] Wang, Huazheng, Qian Zhao, **Qingyun Wu**, Shubham Chopra, Abhinav Khaitan, and Hongning Wang. Global and Local Differential

Privacy for Collaborative Bandits. In Fourteenth ACM Conference on Recommender Systems, 2020.

[3] Kanak Mahadik, **Qingyun Wu**, Shuai Li, Amit Sabne. Fast distributed bandits for online recommendation systems. The 34th ACM International Conference on Supercomputing 2020.

[4] Wenqiang Lei, Xiangnan He, Yisong Miao, **Qingyun Wu**, Richang Hong, Min-Yen Kan and Tat Seng Chua. Estimation-Action-Reflection: Towards Deep Interaction Between Conversational and Recommender Systems. WSDM 2020 (acceptance rate for oral presentation: 7.5%)

[5] **Qingyun Wu**, Zhige Li, Huazheng Wang, Wei Chen, and Hongning Wang. Factorization Bandits for Online Influence Maximization. In Proceedings of the 25th ACM SIGKDD International Conference, pages 636-646, KDD 2019 (acceptance rate for oral presentation: 9.1%)

[6] Huazheng Wang, Sonwoo Kim, Eric McCord-Snook, **Qingyun Wu**, and Hongning Wang. Variance Reduction in Gradient Exploration for Online Learning to Rank. In Proceedings of the 42th International ACM SIGIR conference, pages 835-844, SIGIR 2019 (acceptance rate:20%, **Best Paper Award**).

[7] **Qingyun Wu**, Huazheng Wang, Yanen Li, and Hongning Wang. Dynamic Ensemble of Contextual Bandits to Satisfy Users' Changing Interests. In Proceedings of The World Wide Web Conference, pages 2080-2090, WWW 2019 (acceptance rate for oral presentation: 8%)

[8] Yi Qi, **Qingyun Wu**, Hongning Wang, Jie Tang, and Maosong Sun. Bandit Learning with Implicit Feedback. In Proceedings of the 32nd International Conference on Neural Information Processing Systems, pages 7287-7297, NeurIPS 2018 (acceptance rate: 20%).

[9] **Qingyun Wu**, and Naveen Iyer and Hongning Wang. Learning Contextual Bandits in a Non-stationary Environment. In Proceedings of the 41th International ACM SIGIR conference, pages 495-504, SIGIR 2018 (acceptance rate: 21%).

[10] Huazheng Wang, **Qingyun Wu** and Hongning Wang, Online Interactive Recommendation via Factorization Bandits. In Proceedings of the 31st AAAI Conference, pages 2695-2702, AAAI 2017 (acceptance rate: 24.6%)

[11] **Qingyun Wu**, Hongning Wang, Liangjie Hong and Yue Shi. Returning is believing: Optimizing long-term user engagement in recommender systems. In Proceedings of the 26th ACM International Conference on Information and Knowledge Management, pages 1927-1936, CIKM 2017 (acceptance rate: 21%)

[12] Huazheng Wang, **Qingyun Wu** and Hongning Wang, Learning Hidden Features for Contextual Bandits. In Proceedings of the 25th ACM International Conference on Information and Knowledge Management, pages 1633-1642, CIKM 2016 (acceptance rate: 17.6%)

[13] **Qingyun Wu**, Huazheng Wang, Quanquan Gu, and Hongning Wang. Contextual bandits in a collaborative environment. In Proceedings of the 39th International ACM SIGIR conference, pages 529-538, SIGIR 2016 (acceptance rate: 18%; Awarded as the **Best Research Short** at the 2017 ACM Capital Region Celebration of Women in Computing Conference)

AWARDS

- **SIGIR 2019 Best Paper Award** 2019
- **Rising stars in EECS 2019** 2019
- **Virginia Engineering Foundation Graduate Fellowship** 2018-2019
- **Graduate Student Award for Outstanding Research** 2018
  From the Department of Computer Science, University of Virginia.
- **Best Research Short Finallist** 2018
  From the 14th annual University of Virginia Engineering Research Symposium (UVERS) for exceptional graduate research.
- **CAPWIC Best Research Short** 2017
  From the 2017 ACM Capital Region Celebration of Women in Computing Conference.
- **Graduate Student Award for Outstanding Research** 2017
  From the Department of Computer Science, University of Virginia.
- Student Travel Awards
  -Travel award from Women in Machine Learning 2019
  -NSF student travel awards to NeurIPS 2019, SIGKDD 2019, WWW 2019, NeurIPS 2018, SIGIR 2018 and CIKM 2017
  -ACM SIGIR student travel award to SIGIR 2016
  -ACM SIGKDD student travel award to KDD 2016
- Excellent Undergraduate Thesis Award at Xidian Univ.($< 1\%$) 2014
- National Encouragement Scholarship of China ($< 3\%$) 2013
- Honorable Mention, Mathematics Contest in Modeling/Interdisciplinary Context in Modeling 2013
- Provincial First Price, China Undergraduate Mathematics Contest in Modeling 2012
- Yulong CoolPad Scholarship for Excellent Students ($< 1\%$) 2012
- Outstanding Student Scholarship of Xidian Univ.($< 5\%$) 2011-2014

INVITED TALKS AND ACTIVITIES

- Invited talk at AI Rising Stars Symposium at USC, hosted by USC 12/2019
- Invited talk at University of Illinois at Urbana-Champaign, Database and Information System (DAIS) Lab 10/2019
  Talk title: *Interactive Online Learning for Intelligent Systems*
- Rising Stars in EECS workshop 2019, hosted by UIUC 10/2019
- Women in Research Lean In, Facebook 09/2019
- AI Breakthroughs Workshop, Microsoft Research AI 09/2019
- Invited talk at Microsoft Research AI, Reinforcement Learning Group 08/2019
  Talk title: *Variance Reduction in Gradient Exploration for Online Learning to Rank*

TEACHING EXPERIENCE

- Teaching assistant of CS 6501 Text Mining 2017 Spring, UVa
- Teaching assistant of CS 4501 Information Retrieval 2016 Spring, UVa
- Teaching assistant of CS 6161 Algorithm 2015 Spring, UVa
- Teaching assistant of CS 2150 Program and Data Representation 2014 Fall, UVa

SERVICES

- Reviewer of ICML 2019, AAAI 2019, WSDM 2017, WSDM 2018, ACL 2018, CIKM 2016, TKDE, Information Retrieval Journal, Neurocomputing, Transactions on Data Science,
- Computer Science Graduate Student Group (CSGSG) Officer in the University of Virginia
- **Diversity committee member** in the University of Virginia

REFERENCES

Hongning Wang
- Assistant Professor in the Department of Computer Science, University of Virginia
- **Email:** hw5x@virginia.edu
- **Homepage:** http://www.cs.virginia.edu/~hw5x/

Quanquan Gu
- Assistant Professor in the Department of Computer Science, University of California, Los Angeles
- **Email:** qgu@cs.ucla.edu
- **Homepage:** http://web.cs.ucla.edu/~qgu/

Liangjie Hong
- Director of Engineering, Data Science and Machine Learning at Etsy
- **Email:** hongliangjie@gmail.com
- **Homepage:** http://www.hongliangjie.com/

Wei Chen
- Principal Researcher at Microsoft Research Asia

- Adjunct Professor in the Institute of Interdisciplinary Information Sciences, Tsinghua University
- **Email:** weic@microsoft.com
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Georgios Theocharous
- Senior Research Scientist at Adobe Research
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Zheng Wen
- Research Scientist at DeepMind
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Chi Wang
- Senior Researcher at Microsoft Research
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- **Homepage:** https://www.microsoft.com/en-us/research/people/chiw/