Qingyun Wu

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

APPOINTMENTS

Assistant Professor at **The Pennsylvania State University**
State College, PA, U.S.A
From 2021.08

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, Department of Computer Science 08/2014 - 06/2020
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

PUBLICATIONS

[1] **Qingyun Wu**, Chi Wang, John Langford, Paul Mineiro, Marco Rossi. `ChaCha` for Online AutoML. To appear in ICML 2021.

[2] Chi Wang*, **Qingyun Wu***, Silu Huang, and Amin Saied. Economical Hyperparameter Optimization With Blended Search Strategy. In ICLR 2021.

[3] Chi Wang, **Qingyun Wu**, Markus Weimer, and Erkang Zhu. FLAML: A Fast and Lightweight AutoML Library. In MLSys 2021. (The library is open-sourced at `https://github.com/microsoft/FLAML`)

[4] **Qingyun Wu***, Chi Wang*, and Silu Huang. Frugal Optimization for Cost-related Hyperparameters. In AAAI, 2021.

[5] Huazheng Wang, 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.

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

[7] 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 (oral presentation).

[8] **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, KDD 2019 (oral presentation).

[9] 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, SIGIR 2019 (**Best Paper Award**).

[10] **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, WWW 2019 (oral presentation).

[11] 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, NeurIPS 2018.

[12] **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, SIGIR 2018.

[13] Huazheng Wang, **Qingyun Wu** and Hongning Wang, Online Interactive Recommendation via Factorization Bandits. In Proceedings of the 31st AAAI Conference, AAAI 2017.

[14] **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, CIKM 2017.

[15] 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, CIKM 2016.

[16] **Qingyun Wu**, Huazheng Wang, Quanquan Gu, and Hongning Wang. Contextual bandits in a collaborative environment. In Proceedings of the 39th International ACM SIGIR conference, SIGIR 2016 (this work is also awarded as the **Best Research Short** at the 2017 ACM Capital Region Celebration of Women in Computing Conference).

AWARDS		
	• **International Studies Office Graduation Award for Graduate Academic Excellence**	2021
	• **John A. Stankovic Graduate Research Award Winner**	2020
	• **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	2018,2019

- **Best Research Short Final list** 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.

- Excellent Undergraduate Thesis Award at Xidian University 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

- Mentors of the Reinforcement Learning Open Source Fest at Microsoft Research. 2021.05-2021.08
- Mentors of the the Data Science Summer School at Microsoft Research. 2021.05-2021.06.
- 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 2021/2020/2019, NeurIPS 2021/2020, AAAI 2020/2019, WSDM 2017/2018, 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

INTERNSHIP EXPERIENCE

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