

# Haoran Yu

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## Professional Experience

- **Associate Professor** Apr. 2020 - Now  
*School of Computer Science, Beijing Institute of Technology*
- **Post-Doctoral Fellow** Jan. 2018 - Aug. 2019  
*Department of Electrical and Computer Engineering, Northwestern University*  
*Working with: Prof. Randall Berry (Fellow, IEEE) and Prof. Ermin Wei*
- **Post-Doctoral Fellow** Feb. 2017 - Jan. 2018  
*Department of Information Engineering, The Chinese University of Hong Kong*
- **Post-Doctoral Researcher** Oct. 2016 - Feb. 2017  
*Department of Information Engineering, The Chinese University of Hong Kong*

## Education

- **The Chinese University of Hong Kong** Hong Kong, China  
*Ph.D., Information Engineering* Aug. 2012 - Sep. 2016  
*Thesis title: Optimization and Economic Analysis of Wi-Fi Networks*  
*Advisor: Prof. Jianwei Huang (Fellow, IEEE)*
- **Yale University** New Haven, CT, US  
*Visiting Student, Yale Institute for Network Science (YINS)* Sep. 2015 - May 2016  
*Hosted by: Prof. Leandros Tassiulas (Fellow, IEEE)*
- **Beijing Institute of Technology** Beijing, China  
*B.E., Information Engineering (ranking: 1/114)* Sept. 2008 - June 2012  
*Silver Graduate Student Award (selection ratio 1%)*

## Main Research Interests

- Interdisciplinary Area Between Game Theory and AI

## Selected Awards

- **Best-in-Session Presentation Award**, IEEE INFOCOM, 2019
- **Best Team Player Award**, Network Communications and Economics Lab, CUHK, 2017
- **Best Paper Award Finalist** (one of 5 finalists from 1600 submissions), IEEE INFOCOM (acceptance rate 18%, CCF A), 2016
- **Best-in-Session Presentation Award**, IEEE INFOCOM, 2016

- **Best Student Presentation Award**, Network Communications and Economics Lab, CUHK, 2016
- **Best Student Presentation Award**, Network Communications and Economics Lab, CUHK, 2014
- **Outstanding Teaching Assistant Award**, Information Engineering Department, CUHK, 2014
- **Silver Graduate Student Award** (selection ratio 1%), School of Info. and Electronics, BIT, 2012

## Research Grants

- **Professional Development Travel Grant**, Northwestern University, 2019
- **Research Fellowship Scheme**, CUHK, 2016-2017
- **Student Travel Grant**, IEEE Communications Society for attending IEEE INFOCOM, 2016
- **Overseas Research Attachment Programme**, Faculty of Engineering, CUHK, 2015-2016
- **Global Scholarship Programme for Research Excellence**, CUHK, 2015-2016
- **Student Travel Grant**, IEEE Communications Society for attending IEEE GLOBECOM, 2014
- **Research Postgraduate Student Grants for Overseas Academic Activities**, CUHK, 2014
- **Postgraduate Studentship**, CUHK, 2012 - 2016
- **National Scholarship** (selection ratio 2%), China, 2008-2009, 2009-2010

## Teaching Experiences

- **The Chinese University of Hong Kong**

*Teaching Assistant*

- IEMS5709: Advanced Topics in Information Engineering (Spring 2015)
- IERG3280: Networks: Technology, Economics, and Social Interactions (Spring 2014, Spring 2015)
- ENGG2420C: Engineering Mathematics II (Fall 2013, Fall 2014)
- ENGG2012B: Advanced Engineering Maths (Spring 2013)
- IERG4200: Channel Coding and Modulation (Fall 2012)

- **Beijing Institute of Technology**

*Instructor*

- Mathematical Foundations of Data Science (Spring 2022a, Spring 2022b, Spring 2023)
- Optimization Methods (Spring 2021, Spring 2022, Spring 2023)

## Publications

- **Book Chapter**

1. C. Huang, **H. Yu**, J. Huang, and R. Berry, "Incentive Mechanism Design for Mobile Crowdsourcing Without Verification," chapter in *Mobile Crowdsourcing: From Theory to Practice*, J. Wu and E. Wang (editors), Springer, July 2023.
2. M. H. Cheung, **H. Yu**, and J. Huang, "Mobile Data Offloading for Heterogeneous Wireless Networks," chapter in *Key Technologies for 5G Wireless Systems*, V. W. S. Wong, R. Schober, D. W. K. Ng, and L. C. Wang (editors), Cambridge University Press, April 2017.

#### • Journal Publications

1. C. Huang, **H. Yu**, J. Huang, and R. Berry, "Online Crowd Learning Through Strategic Worker Reports," *IEEE Transactions on Mobile Computing (TMC)*, vol. 22, no. 9, September 2023 (**CCF A**).
2. C. Huang, **H. Yu**, J. Huang, and R. Berry, "An Online Inference-Aided Incentive Framework for Information Elicitation Without Verification," *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 41, no. 4, April 2023 (**CCF A**).
3. C. Huang, **H. Yu**, J. Huang, and R. Berry, "Strategic Information Revelation Mechanism in Crowdsourcing Applications Without Verification," *IEEE Transactions on Mobile Computing (TMC)*, vol. 22, no. 5, May 2023 (**CCF A**).
4. C. Huang, **H. Yu**, J. Huang, and R. Berry, "Eliciting Information from Heterogeneous Mobile Crowdsourced Workers Without Verification," *IEEE Transactions on Mobile Computing (TMC)*, vol. 21, no. 10, October 2022 (**CCF A**).
5. C. Huang, **H. Yu**, R. Berry, and J. Huang, "Using Truth Detection to Incentivize Workers in Mobile Crowdsourcing," *IEEE Transactions on Mobile Computing (TMC)*, vol. 21, no. 6, June 2022 (**CCF A**).
6. **H. Yu**, G. Iosifidis, B. Shou, and J. Huang, "Pricing for Collaboration Between Online Apps and Offline Venues," *IEEE Transactions on Mobile Computing (TMC)*, vol. 19, no. 6, June 2020 (**CCF A**).
7. **H. Yu**, E. Wei, and R. Berry, "Monetizing Mobile Data via Data Rewards," *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 38, no. 4, April 2020 (**CCF A**).
8. **H. Yu**, E. Wei, and R. Berry, "Analyzing Location-Based Advertising for Vehicle Service Providers Using Effective Resistances," *Proceedings of the ACM on Measurement and Analysis of Computing Systems (POMACS)*, vol. 3, no. 1, March 2019.
9. **H. Yu**, M. H. Cheung, G. Iosifidis, L. Gao, L. Tassiulas, and J. Huang, "Mobile Data Offloading for Green Wireless Networks," *IEEE Wireless Communications*, vol. 24, no. 4, pp. 31–37, August 2017.
10. **H. Yu**, M. H. Cheung, L. Gao, and J. Huang, "Public Wi-Fi Monetization via Advertising," *IEEE/ACM Transactions on Networking (TON)*, vol. 25, no. 4, pp. 2110–2121, August 2017 (**CCF A**).
11. **H. Yu**, M. H. Cheung, and J. Huang, "Cooperative Wi-Fi Deployment: A One-to-Many Bargaining Framework," *IEEE Transactions on Mobile Computing (TMC)*, vol. 16, no. 6, pp. 1559–1572, June 2017 (**CCF A**).
12. **H. Yu**, G. Iosifidis, J. Huang, and L. Tassiulas, "Auction-Based Competition Between LTE Unlicensed and Wi-Fi," *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 35, no. 1, pp. 79–90, January 2017 (**CCF A**).
13. **H. Yu**, M. H. Cheung, L. Huang, and J. Huang, "Power-Delay Tradeoff with Predictive Scheduling in Integrated Cellular and Wi-Fi Networks," *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 34, no. 4, pp. 735–742, April 2016 (**CCF A**).

## • Conference Publications

1. L. Cui and **H. Yu**, “Data-Driven Knowledge-Aware Inference of Private Information in Continuous Double Auctions,” in *Proc. of AAAI Conference on Artificial Intelligence (AAAI)*, Vancouver, February 2024 (acceptance rate 23%, **CCF A**).
2. Y. Wang and **H. Yu**, “Predicting Real-World Penny Auction Durations by Integrating Game Theory and Machine Learning,” in *Proc. of AAAI Conference on Artificial Intelligence (AAAI)*, Vancouver, February 2024 (acceptance rate 23%, **CCF A**).
3. **H. Yu** and F. Li, “Personalized Prediction of Bounded-Rational Bargaining Behavior in Network Resource Sharing,” in *Proc. of IEEE International Conference on Computer Communications (INFOCOM)*, Vancouver, May 2024 (acceptance rate 19%, **CCF A**).
4. L. Cui and **H. Yu**, “Inferring Private Valuations from Behavioral Data in Bilateral Sequential Bargaining,” in *Proc. of International Joint Conference on Artificial Intelligence (IJCAI)*, Macao, China, August 2023 (acceptance rate 14%, **CCF A**).
5. C. Huang, **H. Yu**, J. Huang, and R. Berry, “Strategic Information Revelation in Crowdsourcing Systems Without Verification,” in *Proc. of IEEE International Conference on Computer Communications (INFOCOM)*, Online, May 2021 (acceptance rate 20%, **CCF A**).
6. **H. Yu**, E. Wei, and R. Berry, “Learning to Price Vehicle Service with Unknown Demand,” in *Proc. of ACM International Symposium on Theory, Algorithmic Foundations, and Protocol Design for Mobile Networks and Mobile Computing (MobiHoc)*, Online, October 2020 (acceptance rate 15%, **CCF B**).
7. C. Huang, **H. Yu**, J. Huang, and R. Berry, “Online Crowd Learning with Heterogeneous Workers via Majority Voting,” in *Proc. of International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt)*, Volos, Greece, June 2020.
8. C. Huang, **H. Yu**, J. Huang, and R. Berry, “Crowdsourcing with Heterogeneous Workers in Social Networks,” in *Proc. of IEEE Global Communications Conference (GLOBECOM)*, Waikoloa, HI, USA, December 2019.
9. C. Huang, **H. Yu**, J. Huang, and R. Berry, “Incentivizing Crowdsourced Workers via Truth Detection,” in *Proc. of IEEE Global Conference on Signal and Information Processing (GlobalSIP)*, Ottawa, Canada, November 2019.
10. **H. Yu**, E. Wei, and R. Berry, “Analyzing Location-Based Advertising for Vehicle Service Providers Using Effective Resistances,” in *Proc. of ACM SIGMETRICS*, Phoenix, Arizona, USA, June 2019 (acceptance rate of Fall deadline 17%, **CCF B**).
11. Y. Zhu, **H. Yu**, and R. Berry, “The Cooperation and Competition Between an Added Value MVNO and an MNO Allowing Secondary Access,” in *Proc. of International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt)*, Avignon, France, June 2019.
12. **H. Yu**, E. Wei, and R. Berry, “A Business Model Analysis of Mobile Data Rewards,” in *Proc. of IEEE International Conference on Computer Communications (INFOCOM)*, Paris, France, April 2019 (acceptance rate 20%, **CCF A**).
13. Y. Zhu, **H. Yu**, R. Berry, and C. Liu, “Cross-Network Prioritized Sharing: An Added Value MVNO’s Perspective,” in *Proc. of IEEE International Conference on Computer Communications (INFOCOM)*, Paris, France, April 2019 (acceptance rate 20%, **CCF A**).
14. Y. Zhu, **H. Yu**, and R. Berry, “The Economics of Bundling Content with Unlicensed Wireless Service,” in *Proc. of EAI International Conference on Game Theory for Networks (GameNets)*, Paris, France, April 2019.

15. **H. Yu**, E. Wei, and R. Berry, "Watch Ads, Earn Data: Economics of Mobile Data Rewards," in *Proc. of ACM Workshop on the Economics of Networks, Systems and Computation (NetEcon)*, Irvine, CA, USA, June 2018 (in conjunction with ACM SIGMETRICS 2018).
16. **H. Yu**, G. Iosifidis, B. Shou, and J. Huang, "Market Your Venue with Mobile Applications: Collaboration of Online and Offline Businesses," in *Proc. of IEEE International Conference on Computer Communications (INFOCOM)*, Honolulu, HI, USA, April 2018 (acceptance rate 19%, **CCF A**).
17. **H. Yu**, G. Iosifidis, J. Huang, and L. Tassiulas, "Coopetition between LTE Unlicensed and Wi-Fi: A Reverse Auction with Allocative Externalities," in *Proc. of International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt)*, Tempe, AZ, USA, May 2016.
18. **H. Yu**, M. H. Cheung, L. Gao, and J. Huang, "Economics of Public Wi-Fi Monetization and Advertising," in *Proc. of IEEE International Conference on Computer Communications (INFOCOM)* (a Best Paper Award finalist and one of top 5 papers of INFOCOM 2016 recommended for fast track publication in IEEE/ACM Transactions on Networking), San Francisco, CA, USA, April 2016 (acceptance rate 18%, **CCF A**).
19. **H. Yu**, M. H. Cheung, and J. Huang, "Cooperative Wi-Fi Deployment: A One-to-Many Bargaining Framework," in *Proc. of International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt)*, Mumbai, India, May 2015.
20. **H. Yu**, M. H. Cheung, L. Huang, and J. Huang, "Predictive Delay-Aware Network Selection in Data Offloading," in *Proc. of IEEE Global Communications Conference (GLOBECOM)*, Austin, TX, USA, December 2014.
21. **H. Yu**, M. H. Cheung, L. Huang, and J. Huang, "Delay-Aware Predictive Network Selection in Data Offloading," in *Proc. of IEEE International Conference on Computer Communications (INFOCOM) Student Poster Session*, Toronto, Canada, April 2014.

## Professional Activities

- **Memberships**
  - CCF member
- **Organizing Committee Members**
  - Publicity Chair of Fog Computing and Communications Workshop, Hong Kong, China, September 2017
  - Publicity Co-Chair of IEEE International Conference on Computer Communications (INFOCOM) Smart Data Pricing Workshop, May 2017
- **Technical Program Committee (TPC) Members**
  - IEEE Global Communications Conference (GLOBECOM), December 2017, December 2018
  - IEEE International Conference on Communications (ICC), June 2020
  - IEEE International Conference on Computer Communications (INFOCOM) Economics of Fog, Edge and Cloud Computing Workshop, April 2019
  - IEEE International Conference on Computer Communications (INFOCOM) Smart Data Pricing Workshop, May 2017



- International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt), May 2017, May 2018, June 2019, June 2020, August 2023
- International Joint Conference on Theoretical Computer Science (IJTCS), August 2021, August 2023
- International Conference on Network Games, Control and Optimization (NetGCoop), November 2018
- EAI International Conference on Game Theory for Networks (GameNets), April 2018, April 2019
- International Teletraffic Congress (ITC), August 2021, September 2022
- IEEE Sarnoff Symposium, 2019
- IEEE Vehicular Technology Conference (VTC) Fall, September 2022
- IEEE Wireless Communications and Networking Conference (WCNC), March 2017
- IEEE International Conference on Communications in China (ICCC), November 2015, July 2021, August 2022

- **Technical Reviewers**

- Journals

- \* IEEE/ACM Transactions on Networking (TON)
- \* IEEE Journal on Selected Areas in Communications (JSAC)
- \* IEEE Transactions on Mobile Computing (TMC)
- \* IEEE Transactions on Wireless Communications (TWC)
- \* IEEE Transactions on Communications (TCOM)
- \* IEEE Transactions on Network Science and Engineering (TNSE)
- \* IEEE Internet of Things Journal (IoT-J)
- \* IEEE Transactions on Cognitive Communications and Networking (TCCN)
- \* IEEE Transactions on Big Data (TBD)
- \* IEEE Transactions on Green Communications and Networking (TGCN)
- \* IEEE Transactions on Vehicular Technology (TVT)
- \* IEEE Transactions on Control of Network Systems (TCNS)
- \* IEEE Transactions on Signal and Information Processing over Networks (TSIPN)
- \* IEEE Networking Letters (NL)
- \* ACM Transactions on Modeling and Performance Evaluation of Computing Systems (ToMPECS)
- \* Theoretical Computer Science
- \* Performance Evaluation
- \* EURASIP Journal on Wireless Communications and Networking
- \* Journal of Communications and Information Networks
- \* China Communications

- Conferences

- \* IEEE International Conference on Computer Communications (INFOCOM)
- \* International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt)
- \* IEEE International Conference on Computer Communications (INFOCOM) Smart Data Pricing Workshop

- \* International Conference on Network Games, Control and Optimization (NetGCoop)
- \* IEEE Global Communications Conference (GLOBECOM)
- \* IEEE International Conference on Communications (ICC)
- \* IEEE International Conference on Communications (ICC) Workshop on E2Nets
- \* IEEE Wireless Communications and Networking Conference (WCNC)
- \* IEEE International Conference on Communications in China (ICCC)