Kwang-Sung Jun

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Academic Appointments

The University of Arizona — **Tucson, AZ**
Assistant Professor, Department of Computer Science — *August 2019–current*

Boston University — **Boston, MA**
Postdoctoral Associate, Hariri Institute — *September 2018–July 2019*
Advisor: Francesco Orabona

University of Wisconsin-Madison — **Madison, WI**
Postdoctoral Associate, Wisconsin Institute for Discovery — *August 2015–July 2018*
Advisors: Rebecca Willett, Stephen Wright, and Robert Nowak

Education

University of Wisconsin-Madison — **Madison, WI**
Ph.D. Computer Sciences — *2009–2015*
Advisor: Xiaojin (Jerry) Zhu
Dissertation: Some Machine Learning Methods from Sequential Input

University of Wisconsin-Madison — **Madison, WI**
M.S. Computer Sciences — *2009–2011*

Soongsil Univeristy — **Seoul, South Korea**
B.E. Computing (Summa cum Laude); minor in Mathematics — *2003–2009*

Publications

Kwang-Sung Jun, Chicheng Zhang "Crush Optimism with Pessimism: Structured Bandits Beyond Asymptotic Optimality." In ICML Workshop on Theoretical Foundations of Reinforcement Learning, 2020. (**Oral presentation**)

Kwang-Sung Jun, Francesco Orabona. "Parameter-Free Locally Differentially Private Stochastic Subgradient Descent." In *NeurIPS Workshop on Privacy in Machine Learning (PriML)*, 2019.

Kwang-Sung Jun, Ashok Cutkosky, Francesco Orabona. "Kernel Truncated Randomized Ridge Regression: Optimal Rates and Low Noise Acceleration." In *Neural Information Processing Systems (NeurIPS)*, 2019.

Kwang-Sung Jun and Francesco Orabona. "Parameter-Free Online Convex Optimization with Sub-Exponential Noise." In *Proceedings of the Conference on Learning Theory (COLT)*, 2019.

Kwang-Sung Jun, Rebecca Willett, Stephen Wright, Robert Nowak. "Bilinear Bandits with Low-rank Structure." In *Proceedings of the International Conference on Machine Learning (ICML)*, 2019.

Kwang-Sung Jun, Lihong Li, Yuzhe Ma, Xiaojin Zhu. "Adversarial Attacks on Stochastic Bandits." In *Neural Information Processing Systems (NeurIPS)*, 2018.

Yuzhe Ma, **Kwang-Sung Jun**, Lihong Li, Xiaojin Zhu. "Data Poisoning Attacks in Contextual Bandits." In

Conference on Decision and Game Theory for Security (GameSec), 2018.

Kwang-Sung Jun, Robert Nowak. "Bayesian Active Learning on Graphs." In *Cooperative and Graph Signal Processing*, Petar Djuric and Cedric Richard, Eds., Elsevier, 2018.

Kwang-Sung Jun, Francesco Orabona, Rebecca Willett, Stephen Wright. "Online Learning for Changing Environments using Coin Betting." *Electronic Journal of Statistics (EJS)*, 11(2), 5282–5310, 2017.

Kwang-Sung Jun, Aniruddha Bhargava, Robert Nowak, Rebecca Willett. "Scalable Generalized Linear Bandits: Online Computation and Hashing." In *Advances in Neural Information Processing Systems (NeurIPS)*, 2017.

Xiaozhu Meng, Barton P. Miller, **Kwang-Sung Jun**. "Identifying Multiple Authors in a Binary Program." In *European Symposium on Research in Computer Security (ESORICS)*, 2017.

Kwang-Sung Jun, Francesco Orabona, Rebecca Willett, Stephen Wright. "Improved Strongly Adaptive Online Learning using Coin Betting." In *The International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2017. (**Oral presentation**)

Kwang-Sung Jun, Robert Nowak. "Graph-Based Active Learning: A New Look at Expected Error Minimization." In *In IEEE GlobalSIP Symposium on Non-Commutative Theory and Applications*, 2016.

Jeffrey Zemla, Yoed Kenett, **Kwang-Sung Jun**, Joseph Austerweil. "U-INVITE: Estimating Individual Semantic Networks from Fluency Data." In *Proceedings of the 38th Annual Meeting of the Cognitive Science Society*, 2016.

Kwang-Sung Jun, Robert Nowak. "Anytime Exploration for Multi-armed Bandits using Confidence Information." In *Proceedings of the International Conference on Machine Learning (ICML)*, 2016.

Kwang-Sung Jun, Kevin Jamieson, Robert Nowak, Xiaojin Zhu. "Top Arm Identification in Multi-armed Bandits with Batch Arm Pulls." In *The International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2016.

Kwang-Sung Jun, Xiaojin Zhu, Timothy Rogers, Zhuoran Yang, Ming Yuan. "Human Memory Search as Initial-visit Emitting Random Walk." In *Advances in Neural Information Processing Systems (NeurIPS)*, 2015.

Kayla Jacobs, **Kwang-Sung Jun**, Nathan Lieby, Elena Eneva. "Smarter Crisis Crowdsourcing." In *ACM SIGKDD Workshop on Data Science for Social Good*, 2014.

Kwang-Sung Jun, Xiaojin Zhu, Burr Settles, Timothy Rogers. "Learning from Human-Generated Lists." In *Proceedings of the International Conference on Machine Learning (ICML)*, 2013.

Jun-Ming Xu, **Kwang-Sung Jun**, Xiaojin Zhu, Amy Bellmore. Learning from Bullying Traces in Social Media. In *North American Chapter of the Association for Computational Linguistics - Human Language Technologies (NAACL-HLT)*, 2012.

Michael Maynord, Jitrapon Tiachunpun, Xiaojin Zhu, Charles R. Dyer, **Kwang-Sung Jun**, Jake Rosin. "An Image-To-Speech iPad App." In *Department of Computer Sciences Technical Report TR1774, University of Wisconsin-Madison*, 2012.

Bryan R. Gibson, **Kwang-Sung Jun**, Xiaojin Zhu. "With a little help from the computer: Hybrid human-machine systems on bandit problems." In *NeurIPS Workshop on Computational Social Science and the Wisdom of Crowds*, 2010.

Xiaojin Zhu, Bryan R. Gibson, **Kwang-Sung Jun**, Timothy T. Rogers, Joseph Harrison, and Chuck Kalish. "Cognitive models of test-item effects in human category learning." In *Proceedings of the International*

Conference on Machine Learning (ICML), 2010.

Kwang-Sung Jun and Kyu-Baek Hwang. "An efficient collaborative filtering method based on k-nearest neighbor learning for large-scale data." In *Proceedings of Korea Computer Congress*, 2008.

Awards

Travel Grants, International Conference on Machine Learning (ICML), 2013.

Doctoral Study Abroad Scholarship from The Korea Foundation of Advanced Studies, 2009-2014.

Alumni Scholarship, Department of Computer Sciences, University of Wisconsin-Madison, 2009.

Korean Broadcasting System (KBS) Science and Engineering Human Resource Development Scholarship, 2009.

Academic Service

Program Committee, Neural Information Processing Systems (NeurIPS), 2020.

Program Committee, International Conference on Artificial Intelligence and Statistics (AISTATS), 2020.

Area Chair, Association for the Advancement of Artificial Intelligence (AAAI), 2020.

Reviewer, Neural Information Processing Systems (NeurIPS), 2019.

Program Committee, International Joint Conference on Artificial Intelligence (IJCAI), 2019.

Program Committee, International Conference on Machine Learning (ICML), 2019.

Reviewer, Conference on Learning Theory (COLT), 2019.

Program Committee, International Conference on Artificial Intelligence and Statistics (AISTATS), 2019.

Reviewer, Neural Information Processing Systems (NeurIPS), 2018.

Program Committee, International Conference on Machine Learning (ICML), 2018.

Reviewer, IEEE Transactions on Signal Processing, 2018.

Program Committee, International Conference on Artificial Intelligence and Statistics (AISTATS), 2018.

Program Committee, Association for the Advancement of Artificial Intelligence (AAAI), 2018.

Reviewer, Neural Information Processing Systems (NeurIPS), 2017.

Program Committee, International Conference on Machine Learning (ICML), 2017.

Subreviewer, Conference on Learning Theory (COLT), 2017.

Program Committee, International Conference on Artificial Intelligence and Statistics (AISTATS), 2017.

Program Committee, International Conference on Machine Learning (ICML), 2016.

Invited Talks

"Crush Optimism with Pessimism: Structured Bandits Beyond Asymptotic Optimality," RL Theory Seminars (Virtual), July 2020.

At ICML'20 workshop on theoretical foundations of reinforcement learning, "Crush Optimism with Pessimism: Structured Bandits Beyond Asymptotic Optimality." [video] "Accelerating discovery rate in adaptive experiments via bandits with low-rank structure", TRIPODS RWG6 Seminar, The University of Arizona, September 2019.

"Adaptive data collection for accelerating discovery rates", TRIPODS Seminar, The University of Arizona, September 2019.

"Accelerating discovery rate in adaptive experiments via bandits with low-rank structure", Microsoft, Cambridge, MA, July 2019.

"Accelerating discovery rate in adaptive experiments via bandits with low-rank structure", The University of Arizona, Tucson, AZ, April 2019.

"Adapting to changing environments in online learning", Boston University, Open AIR: Industry Open House, Boston, MA, October 2018.

"Scalable Generalized Linear Bandits: Online Computation and Hashing", University of Wisconsin-Madison, Madison, WI, October 2017.

"Multi-Armed Bandit Algorithms and Applications to Experiment Selection", University of Wisconsin-Madison, Center for Predictive Computational Phenotyping Annual Retreat, Madison, WI, June 2016.

"Top Arm Identification in Multi-Armed Bandits with Batch Arm Pulls", University of Wisconsin-Madison, Madison, WI, March, 2016.

"Measuring semantic structure from verbal fluency data with the initial-visit-emitting (INVITE) random walk", University of Wisconsin-Madison, Madison, WI, November, 2015.

"Learning from Human-Generated Lists", Toyota Technological Institute at Chicago, Chicago, IL, March, 2015.

Industry Experience

Eric and Wendy Schmidt's Data Science for Social Good **Chicago, IL**
Fellow *Summer 2013*
Supervisor: Elena Eneva and Rayid Ghani
Project: "Smarter Crisis Crowdsourcing." Developed natural language processing tools for automatic event tagging (e.g., categorization) in a crisis crowdsourcing framework.

@WalmartLabs **San Bruno, CA**
Member of Technical Staff Internship *Summer 2012*
Supervisor: Yannis Pavlidis
Project: "Personal Event Detection in Twitter"

Robert Bosch LLC **Palo Alto, CA**
Research Internship *Summer 2011*
Supervisor: Dr. Soundar Srinivasan
Project: "Data Mining for Smart Medical Logic"

Teaching Experience

The University of Arizona **Tucson, AZ**
Computer Science Department
CSC665-001 Online Learning and Multi-armed Bandits Spring 2020

University of Wisconsin-Madison **Madison, WI**
Department of Computer Sciences
Teaching Assistant – Introduction to Programming Fall 2009
Teaching Assistant – Introduction to Data Structure Fall 2009

Soongsil University **Seoul, South Korea**
School of Computing
Teaching Assistant – Numerical Algebra Spring 2009
Programming Language Tutor Spring 2009

References

Available upon request.