Kwang-Sung Jun

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Academic Appointments

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

Research Interests

Machine learning, sequential decision-making in feedback loops (multi-armed bandit), online learning, cognitive modeling, active learning

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.S., Computer Science (Summa cum Laude); minor in Mathematics   *2003–2009*

Selected Publications

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

Kwang-Sung Jun, Robert Nowak. "Anytime Exploration for Multi-armed Bandits using Confidence Information". In *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 (NIPS)*, 2015.

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

In Submission

Kwang-Sung Jun, Francesco Orabona, Rebecca Willett, Stephen Wright. "Online Learning for Changing Environments using Coin Betting". *submitted, preprint at arXiv:1711.02545*.

Publications

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.

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.

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

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 *NIPS 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 *The 27th International Conference on Machine Learning (ICML)*, 2010.

Kwang-Sung Junand 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, 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 (NIPS), 2017.

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

Reviewer, 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.

Teaching Experience

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

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"

Other Work Experience

Republic of Korea Army   **South Korea**
Sergeant (11c; infantry)   *2005-2007*

Military service in the 8th US Army through the Korean Augmented to United States Army (KATUSA) program; achieved Expert Infantry Badge, graduated PLDC (Non-Commissioned Officer school), and received an Army Commendation Medal from US Army.

Other Activities

14th place at ACM ICPC Asia Regional Contest, 2008.

Participated the 6th Qualcomm IT Tour program at San Diego, CA, 2008; 8 days of visiting Qualcomm Headquarters including round table with CEO Dr. Paul.

Participated in the Netflix Prize; ranked within 700 in January 2008.

Exhibited "Movie Recommender System" in SAMSUNG 5th IT Festival, March 2008.

Chairman of an undergraduate research group ISTEAM in 2007-2008 during which the group was selected as "the Best IT Research Group" by Samsung and was supported financially.

Authored the online tutorial "Understanding Assembly Language" at `korea.internet.com`, 2004-2005

Skills

Technical Skills: Matlab, Python, Numpy/Scipy, Julia, Java, Scala, Apache Hive, C/C++, HTML, PHP, MySQL, Adobe Flex.

References

Robert Nowak
Department of Electrical and Computer Engineering, University of Wisconsin-Madison
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Rebecca Willett
Department of Electrical and Computer Engineering, University of Wisconsin-Madison
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Xiaojin (Jerry) Zhu
Department of Computer Sciences, University of Wisconsin-Madison
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Stephen Wright
Department of Computer Sciences, University of Wisconsin-Madison
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