

Sewoong Oh

CONTACT	Bill & Melinda Gates Center, room 207 University of Washington Seattle, WA 98195	+1-650-796-4644 sewoong@cs.washington.edu https://homes.cs.washington.edu/~sewoong/
EDUCATION	Stanford University , Stanford, CA, USA <i>Ph.D. in Electrical Engineering</i> Advisor: Andrea Montanari Dissertation: “Matrix Completion: Fundamental Limits and Efficient Algorithms”	Sep 07 – Jan 11
	Stanford University , Stanford, CA, USA <i>Master of Science in Electrical Engineering</i>	Sep 05 – Jun 07
	Seoul National University , Seoul, Korea <i>Bachelor of Science in Electrical Engineering</i>	Mar 1998 – Mar 02
APPOINTMENTS	Associate Professor - University of Washington Allen School of Computer Science & Engineering	Jan 19 – present
	Associate Professor - University of Illinois at Urbana-Champaign Assistant Professor - University of Illinois at Urbana-Champaign Department of Industrial and Enterprise Systems Engineering	Aug 18 – Dec 18 July 12 – Aug 18
	Massachusetts Institute of Technology , Cambridge, MA, USA <i>Postdoctoral Researcher at Laboratory for Information and Decision Systems (LIDS)</i> Mentor: Devavrat Shah	Jan 11 – July 12
AWARDS	<ul style="list-style-type: none">• ACM SIGMETRICS Rising Star Award, 2017• GOOGLE Faculty Research Award, 2016• NSF CAREER Award, 2016• ACM SIGMETRICS best paper award, 2015• Lists of Teachers Ranked as Excellent, 2012 and 2015• Kenneth C. Sevcik Outstanding Student Paper Award, ACM SIGMETRICS, 2010• Samsung Fellowship, 2005–2010	
RESEARCH INTEREST	My research interest is in the theory and practice of machine learning. I apply techniques from applied probability, information theory, coding theory, stochastic networks, and optimization to provide new algorithmic solutions and analyze the performance in machine learning applications, including generative adversarial networks, blockchains, differential privacy, anonymous messaging, crowdsourcing, and ranking.	
TEACHING	at UW Spring 2019 : CSE416 “Introduction to Machine Learning” at UIUC Fall 2014, 2015, Spring 2017, 2018 : Undergraduate course IE310/311, “Operations Research” Spring 2013, 2014, Fall 2018 : Graduate course IE512, “Network Analysis of Systems” Fall 2012, Spring 2015, Fall 2016 : Graduate course IE598SO, “Inference on Graphical Models” Spring 2016, Fall 2017 : Graduate course IE532, “Analysis of Network Data”	

1. S. Negahban, S. Oh, K. Thekumparampil, and J. Xu, "Learning from Comparisons and Choices", *Journal of Machine Learning Research*, accepted, 2018
2. A. Khetan, and S. Oh, "Computational and Statistical Tradeoffs in Learning to Rank", *Journal of Machine Learning Research*, accepted, 2018
3. J. Ok, S. Oh, J. Shin, and Y. Yi, "Optimality of Belief Propagation for Crowdsourced Classification", *IEEE Transactions on Information Theory*, Vol.64, Issue:9, pp.6127-6138, September 2018
4. W. Gao, S. Oh, and P Viswanath, "Demystifying Fixed k-Nearest Neighbor Information Estimators", *IEEE Transactions on Information Theory*, Vol.64, Issue:8, pp.5629 - 5661, September 2018
5. W. Gao, S. Oh, and P Viswanath, "Breaking the Bandwidth Barrier: Geometrical Adaptive Entropy Estimation", *IEEE Transactions on Information Theory*, Vol.64, Issue:5, pp.3313-3330, May 2018
6. H. Kim, W. Gao, S. Kannan, S. Oh, and P. Viswanath, "Discovering Potential Correlations via Hypercontractivity", *Entropy*, Vol.19, Issue:11, pp.586, October 2017
7. P. Kairouz, S. Oh, and P. Viswanath, "The Composition Theorem for Differential Privacy", *IEEE Transaction on Information Theory*, Volume 63, Issue 6, pp.4037-4049, June 2017
8. G. Fanti, P. Kairouz, S. Oh, K. Ramchandran, and P. Viswanath, "Hiding the Rumor Source", *IEEE Transactions on Information Theory*, Vol.63, Issue:10, pp.6679-6713, October 2017
9. A. Khetan, and S. Oh, "Data-driven Rank Breaking for Efficient Rank Aggregation", *Journal of Machine Learning Research*, Vol.17, no.193, pp.1-54, October 2016
10. S. Krishnasamy, R. Sen, S. Oh, and S. Shakkottai, "Detecting Sponsored Recommendations", *ACM Transactions on Modeling and Performance Evaluation of Computing Systems*, Volume 2, Issue 1, pp.6:1-6:29, November 2016
11. G. Fanti, P. Kairouz, S. Oh, K. Ramchandran, and P. Viswanath, "Metadata-conscious Anonymous Messaging", *IEEE Transactions on Signal and Information Processing over Networks*, Volume: 2, Issue: 4, pp.582 - 594, Dec 2016
12. P. Kairouz, S. Oh, and P. Viswanath, "Extremal Mechanisms for Local Differential Privacy", *Journal of Machine Learning Research (JMLR)*, Vol. 17, pp.1-51, April 2016.
13. S. Negahban, S. Oh, and D. Shah, "RankCentrality: Ranking from Pair-wise Comparisons," *Operations Research*, Vol.65, no.1, pp.266-287, October 2016
14. Q. Geng, P. Kairouz, S. Oh, and P. Viswanath, "The Staircase Mechanisms in Differential Privacy", *Selected Topics in Signal Processing*, April 2015
15. D. R. Karger, S. Oh, D. Shah, "Budget-optimal task allocation for reliable crowdsourcing systems," *Operations Research*, Vol 62 Issue 1, pp.1-24, January 2014.
16. A. Karbasi, S. Oh, "Robust localization from incomplete local information," *IEEE Trans. on Networking*, Vol 21 pp.1131-1144, August 2013.
17. R. Parhizkar, A. Karbasi, S. Oh, M. Vetterli, "Calibration using matrix completion with application to ultrasound tomography," *IEEE Trans. on Signal Processing*, Vol 61, pp.4923-4933, Oct 2013.
18. A. Marcus, D. Karger, S. Madden, R. Miller, S. Oh, "Counting with the crowd", *Journal Proceedings of the VLDB Endowment*, Volume 6, Issue 2, Pages 109-120, December 2012
19. R. H. Keshavan, A. Montanari, S. Oh, "Matrix completion from noisy entries," *Journal of Machine Learning Research*, Vol 11 pp.2057-2078, July 2010.

20. R. H. Keshavan, A. Montanari, S. Oh, “Matrix completion from a few entries,” *IEEE Trans. on Information Theory*, Vol 56 no.6 pp.2980-98, June 2010.

PUBLICATIONS
UNDER REVIEW

1. A. Khetan and S. Oh, “Achieving budget-optimality with adaptive schemes in crowdsourcing”, under review
2. W. Gao, S. Kannan, S. Oh, and P. Viswanath, “Conditional Dependence via Shannon Capacity: Axioms, Estimators and Applications”, under review

CONFERENCE
PUBLICATIONS

1. K. Thekumparampil, A. Khetan, Z. Lin, G. Fanti, and S. Oh, “Robustness of conditional GANs to noisy labels”, *Neural Information Processing Systems (NIPS)*, Montreal, Canada, 2018, **Spotlight presentation**, (Acceptance rate: $1013/4856=20.9\%$, Spotlight acceptance rate: $168/4856=3.5\%$)
2. Z. Lin, A. Khetan, G. Fanti, S. Oh, “PacGAN: The power of two samples in generative adversarial networks”, *Neural Information Processing Systems (NIPS)*, Montreal, Canada, 2018, (Acceptance rate: $1013/4856=20.9\%$)
3. H. Kim, Y. Jiang, S. Kannan, S. Oh, and P. Viswanath, “Deepcode: Feedback Codes via Deep Learning”, *Neural Information Processing Systems (NIPS)*, Montreal, Canada, 2018, (Acceptance rate: $1013/4856=20.9\%$)
4. H. Kim, Y. Jiang, R. B. Rana, S. Kannan, S. Oh, and P. Viswanath, “Communication Algorithms via Deep Learning”, *International Conference on Learning Representations (ICLR)*, Vancouver, Canada, April 2018
5. W. Gao, S. Kannan, S. Oh, and P. Viswanath, “Estimating Mutual Information for Discrete-Continuous Mixtures”, *Neural Information Processing Systems (NIPS)*, Long Beach, CA, 2017, **Spotlight presentation**, (Acceptance rate: $678/3240=20.9\%$, Spotlight acceptance rate: $152/3240=4.7\%$)
6. W. Gao, S. Kannan, H. Kim, S. Oh, and P. Viswanath, “Discovering Potential Influence via Information Bottleneck”, *Neural Information Processing Systems (NIPS)*, Long Beach, CA, 2017, (Acceptance rate: $678/3240=20.9\%$)
7. M. Jang, S. Kim, C. Suh, and S. Oh, “Top-K Ranking from Pairwise Comparisons: When Spectral Ranking is Optimal”, *Neural Information Processing Systems (NIPS)*, Long Beach, CA, 2017, (Acceptance rate: $678/3240=20.9\%$)
8. A. Khetan, S. Oh, “Matrix Norm Estimation from a Few Entries”, *Neural Information Processing Systems (NIPS)*, Long Beach, CA, 2017, **Spotlight presentation**, (Acceptance rate: $678/3240=20.9\%$, Spotlight acceptance rate: $152/3240=4.7\%$)
9. W. Gao, S. Oh, and P. Viswanath, “Density Functional Estimators with k-Nearest Neighbor Bandwidths”, *International Symposium on Information Theory (ISIT)*, 2017
10. W. Gao, S. Oh, and P. Viswanath, “Demystifying Fixed k-Nearest Neighbor Information Estimators”, *International Symposium on Information Theory (ISIT)*, 2017
11. W. Gao, S. Oh, and P. Viswanath, “Breaking the Bandwidth Barrier: Geometrical Adaptive Entropy Estimation”, *Neural Information Processing Systems (NIPS)*, Barcelona, Spain, 2016 (Acceptance rate: $568/2500=22.7\%$)
12. A. Khetan and S. Oh, “Computational and Statistical Tradeoffs in Learning to Rank”, *Neural Information Processing Systems (NIPS)*, Barcelona, Spain, 2016 (Acceptance rate: $568/2500=22.7\%$)
13. A. Khetan and S. Oh, “Achieving budget-optimality with adaptive schemes in crowdsourcing”, *Neural Information Processing Systems (NIPS)*, Barcelona, Spain, 2016 (Acceptance rate: $568/2500=22.7\%$)

14. W. Gao, S. Kannan, S. Oh, P. Viswanath, “Conditional Dependence via Shannon Capacity: Axioms, Estimators and Applications”, *International Conference on Machine Learning (ICML)*, New York, 2016, (Acceptance rate: 322/1327=24.3%)
15. A. Khetan, S. Oh, “Data-driven Rank Breaking for Efficient Rank Aggregation”, *International Conference on Machine Learning (ICML)*, New York, 2016, (Acceptance rate: 322/1327=24.3%)
16. J. Ok, S. Oh, J. Shin, Y. Yi, “Optimality of Belief Propagation for Crowdsourced Classification”, *International Conference on Machine Learning (ICML)*, New York, 2016, (Acceptance rate: 322/1327=24.3%)
17. G. Fanti, P. Kairouz, S. Oh, K. Ramchandran and P. Viswanath, “Metadata-conscious Anonymous Messaging”, *International Conference on Machine Learning (ICML)*, New York, 2016, (Acceptance rate: 322/1327=24.3%)
18. G. Fanti, P. Kairouz, S. Oh, K. Ramchandran and P. Viswanath, “Rumor Source Obfuscation on Irregular Trees”, *ACM SIGMETRICS*, Antibes, France, 2016 (Acceptance rate: 28/208=13.5%)
19. P. Kairouz, S. Oh, and P. Viswanath, “Secure Multi-party Differential Privacy”, *Neural Information Processing Systems (NIPS)*, Montreal, Canada, 2015 (Acceptance rate: 403/1838=21.9%)
20. S. Oh, K. K. Thekumparampil, and J. Xu, “Collaboratively Learning Preferences from Ordinal Data”, *Neural Information Processing Systems (NIPS)*, Montreal, Canada, 2015 (Acceptance rate: 403/1838=21.9%)
21. S. Krishnasamy, R. Sen, S. Oh, and S. Shakkottai, “Detecting Sponsored Recommendations”, *Proceedings of the 2014 ACM SIGMETRICS* Portland, Oregon, June 2015 (Short paper acceptance rate: 57/239=23.8%)
22. G. Fanti, P. Kairouz, S. Oh, and P. Viswanath, “Spy vs. Spy: Rumor Source Obfuscation”, *Proceedings of the 2014 ACM SIGMETRICS* Portland, Oregon, June 2015, **Best paper award**, (Acceptance rate: 32/239=13.4%)
23. P. Kairouz, S. Oh, and P. Viswanath, “Extremal Mechanisms for Local Differential Privacy”, *Neural Information Processing Systems (NIPS)*, Montreal, Canada, 2014, (Acceptance rate:414/1678=24.7%)
24. P. Jain and S. Oh, “Provable Tensor Factorization with Missing Data”, *Neural Information Processing Systems (NIPS)*, Montreal, Canada, 2014, (Acceptance rate:414/1678=24.7%)
25. B. Hajek, S. Oh, and J. Xu, “Minimax-optimal Inference from Partial Rankings”, *Neural Information Processing Systems (NIPS)*, Montreal, Canada, 2014, (Acceptance rate:414/1678=24.7%)
26. S. Oh and D. Shah , “Learning Mixed Multinomial Logit Model from Ordinal Data”, *Neural Information Processing Systems (NIPS)*, Montreal, Canada, 2014, (Acceptance rate:414/1678=24.7%)
27. P. Jain, S. Oh, “Learning Mixtures of Discrete Product Distributions using Spectral Decompositions”, *Proceedings of the 27th annual conference on learning theory (COLT)*, Barcelona, Spain, June 2014, (Acceptance rate:52/140=37.1%)
28. A. Ammar, S. Oh, D. Shah, L. Voloch, “What’s your choice? Learning the mixed multinomial logic model,” *Proceedings of the 2014 ACM SIGMETRICS*, Austin, TX, June 2014, (Acceptance rate:40/238=16.8%)
29. A. Marcus, D. Karger, S. Madden, R. Miller, S. Oh, “Counting with the crowd”, *Proceedings of the 39th international conference on very large data bases (VLDB)*, Riva del Garda, Trento, August 2013, (Acceptance rate:127/559=22.7%)
30. D. R. Karger, S. Oh, D. Shah, “Efficient Crowdsourcing for Multi-class Labeling,” *Proceedings of the 2013 ACM SIGMETRICS*, CMU, Pittsburgh, PA, July 2013, (Acceptance rate:26/196=13.3%)

31. S. Negahban, S. Oh, and D. Shah, "Iterative Ranking from Pairwise Comparisons," *Neural Information Processing Systems (NIPS)*, Lake Tahoe, CA, December 2012, (**Spotlight Presentation**), (Acceptance rate:370/1467=25.2%, Spotlight:72/1467=4.9%)
32. D. R. Karger, S. Oh, D. Shah, "Iterative learning for reliable crowdsourcing systems," *Neural Information Processing Systems (NIPS)*, Granada, Spain, December 2011. (**Oral Presentation**), (Acceptance rate:305/1400=21.8%, Oral:20/1400=1.4%)
33. D. R. Karger, S. Oh, D. Shah, "Budget-optimal crowdsourcing using low-rank matrix approximations," *Proc. of the Allerton Conf. on Commun., Control and Computing*, Monticello, IL, September 2011.
34. S. Korada, A. Montanari, S. Oh, "Gossip PCA," *Proceedings of the 2011 ACM SIGMETRICS*, San Jose, CA, June 2011, (Acceptance rate:26/177=14.7%)
35. A. Montanari, S. Oh, "On positioning via distributed matrix completion," *Sensor Array and Multichannel Signal Processing Workshop*, Jerusalem, Israel, October 2010.
36. R. Parhizkar, A. Karbasi, S. Oh, M. Vetterli, "Ultrasound tomography calibration using structured matrix completion," *The 20th International Congress on Acoustics*, Sydney, Australia, August 2010.
37. A. Karbasi, S. Oh, "Distributed sensor network localization from local connectivity: performance analysis for the HOP-TERRAIN algorithm," *Proceedings of the 2010 ACM SIGMETRICS*, New York, NY, June 2010, (**Kenneth C. Sevcik Outstanding Student Paper Award**), (Acceptance rate:29/184=15.8%)
38. S. Oh, A. Karbasi, A. Montanari, "Sensor network localization from local connectivity: performance analysis for the MDS-MAP algorithm," *Proc. of the IEEE Inform. Theory Workshop*, Cairo, Egypt, January 2010.
39. R. H. Keshavan, A. Montanari, S. Oh, "Matrix completion from noisy entries," *Neural Information Processing Systems (NIPS)*, Vancouver, Canada, December 2009, (Acceptance rate:264/1105=23.9%)
40. M. Bayati, R. H. Keshavan, A. Montanari, S. Oh, A. Saberi, "Generating random tanner-graphs with large girth," *Proc. of the IEEE Inform. Theory Workshop*, Taormina, Italy, October 2009.
41. R. H. Keshavan, A. Montanari, S. Oh, "Low-rank matrix completion with noisy observations: a quantitative comparison," *Proc. of the Allerton Conf. on Commun., Control and Computing* (invited), Monticello, IL, September 2009.
42. R. H. Keshavan, A. Montanari, S. Oh., "Matrix completion from a few entries," *Proc. of the IEEE Int. Symposium on Inform. Theory (ISIT)*, Seoul, Korea, June 2009.
43. R. H. Keshavan, A. Montanari, S. Oh, "Learning low rank matrices from $O(n)$ entries," *Proc. of the Allerton Conf. on Commun., Control and Computing* (invited), Monticello, IL, September 2008.
44. J. Ezri, A. Montanari, S. Oh, R. Urbanke, "Computing the threshold shift for general channels," *Proc. of the IEEE Int. Symposium on Information Theory (ISIT)*, Toronto, Canada, June 2008.
45. J. Ezri, A. Montanari, S. Oh, R. Urbanke, "The slope scaling parameter for general channels," *Proc. of the IEEE Int. Symposium on Information Theory (ISIT)*, Toronto, Canada, June 2008.

INVITED TALKS

- 2018/09:** “The power of two samples in generative adversarial networks”, LIDS Seminar, MIT, MA, March 2018
- 2018/05:** “Hypothesis testing perspective on generative adversarial networks and differential privacy”, CSE seminar, University of Washington, Seattle, WA
- 2018/04:** “Hypothesis testing perspective on generative adversarial networks and differential privacy”, ECE seminar, University of Texas, Austin, TX
- 2018/03:** “Hypothesis testing perspective on generative adversarial networks and differential privacy”, EE seminar, University of Michigan, Ann Arbor, MI
- 2018/01:** “The power of two samples in generative adversarial networks”, Communications Seminar, EPFL, Lausanne, Switzerland, January 2018
- 2017/11:** “The power of two samples in generative adversarial networks”, NIPS workshop, Long Beach, CA, December 2017
- 2017/11:** “The power of two samples in generative adversarial networks”, Communication group seminar, University of Michigan
- 2017/09:** “Achieving budget-optimality with adaptive schemes in crowdsourcing”, Statistics Seminar, London School of Economics, London, England
- 2017/03:** “Achieving budget-optimality with adaptive schemes in crowdsourcing”, Workshop on Statistical Physics, learning, inference, and networks, Les Houches, France
- 2017/02:** “Achieving budget-optimality with adaptive schemes in crowdsourcing”, ITA workshop, UCSD
- 2017/02:** “Achieving budget-optimality with adaptive schemes in crowdsourcing”, Statistics Department, University of Wisconsin
- 2017/01:** “Achieving budget-optimality with adaptive schemes in crowdsourcing”, CESG teleseminar, Texas A&M
- 2016/12:** “Braking the bandwidth barrier: local adaptive entropy estimator”, ICSCA, Shanghai, China
- 2016/12:** “Achieving budget-optimality with adaptive schemes in crowdsourcing”, NIPS workshop on crowdsourcing, Barcelona, Spain
- 2016/11:** “Achieving budget-optimality with adaptive schemes in crowdsourcing”, INFORMS, Nashville, TN
- 2016/10:** “Achieving budget-optimality with adaptive schemes in crowdsourcing”, Machine Learning seminar, USC
- 2016/06:** “Privacy region and its applications”, Weekly Privacy Seminar, Harvard University, Cambridge, MA
- 2016/05:** “Rumor source obfuscation”, ITA seminar, UCSD
- 2016/03:** “Achieving budget-optimality with adaptive schemes in crowdsourcing”, Nexus of information and computation theories, Institut Henri Poincare, Paris, France
- 2016/03:** “Privacy region and its applications”, Nexus of information and computation theories, Institut Henri Poincare, Paris, France
- 2016/02:** “Rumor source obfuscation”, ITA workshop, UCSD
- 2015/11:** “Rumor source obfuscation”, LIDS Seminar, MIT
- 2015/10:** “Rumor source obfuscation”, Information Theory Workshop, Jeju Island, Korea
- 2015/09:** “Rumor source obfuscation”, WNCG seminar, University of Texas, Austin
- 2015/08:** “Tensor Completion with Provable Guarantees”, Joint Statistics Meeting (JSM), Seattle, WA
- 2015/05:** “Privacy region and its applications”, KAIST Theory Day, KAIST, Daejeon, Korea
- 2015/05:** “Rumor source obfuscation”, GRAMSIA, May 2015
- 2015/01:** “Data processing inequalities for differential privacy”, Invited Talk, ITA, San Diego, CA.
- 2015/01:** “Ranking from pairwise comparisons”, Invited Talk, Joint Mathematics Meeting, SIAM Minisymposium on Matrix Concentration Inequalities, San Antonio, TX.
- 2014/04:** “Budget-optimal task allocation for reliable crowdsourcing systems”, Invited Talk, Seoul National University, Seoul, Korea.
- 2014/02:** “”, Invited Talk, IMSE Hot TIME Symposium: Applied Geometry, Topology, and

Networks, UIUC, Urbana, IL

2013/12: “Budget-optimal task allocation for reliable crowdsourcing systems”, ISL Colloquium, Stanford University, Stanford, CA.

2013/12: “Budget-optimal task allocation for reliable crowdsourcing systems”, GlobalSIP conference, Austin, TX

2013/11: “Ranking from pairwise comparisons”, Invited Talk, INFORMS Annual Meeting, Minneapolis, MN.

2013/05 “Spectral methods in machine learning”, MidWest Numerical Analysis Day, University of Chicago, Chicago, IL.

2013/04: “Budget-optimal task allocation for reliable crowdsourcing systems”, Invited Talk, Wireless Networking and Communications Seminar Series, University of Texas at Austin, TX.

2012/08: “Ranking from pairwise comparisons”, International Symposium on Mathematical Programming, Berlin, Germany.

2011/11: “Budget-optimal task allocation for reliable crowdsourcing systems”, INFORMS Annual Meeting, Charlotte, NC.

2011/06: “Designing Cost-efficient Crowdsourcing Systems”, Workshop in Information and Decision in Social Networks (WIDS), MIT, Cambridge, MA

2010/10: “Positioning via Matrix Completion”, Sensor Array and Multichannel Workshop, Jerusalem, Israel.

2010/06 : “Matrix Completion from a few entries”, IDEAS Seminar, Princeton University, Princeton, NJ.

2010/02: “Matrix Completion from a few entries”, Information Theory and Applications Workshop (Graduation Day), UCSD, San Diego, CA.

2009/09: “Matrix Completion from a few entries”, Allerton Conference, Monticello, IL.

GRANTS

External grants

1. NSF, Division of Information & Intelligent Systems

- title: “CIF: RI: Small: Information-theoretic measures of dependencies and novel sample-based estimators”
- PI: Sewoong Oh
- total funding: \$450,000
- duration: 8/15/2018 - 7/31/2021

2. ARO, Network Sciences Division

- title: “Discovering Novel Communication Algorithms via Machine Learning”
- PIs: Sewoong Oh
- total funding: \$60,000,
- duration: 7/15/2018-4/15/2019

3. Extreme Science and Engineering Discovery Environment (XSEDE) Start-up Fund

- title: “Exploring and Generating Data with Generative Adversarial Networks”
- PIs: Giulia Fanti (lead), Sewoong Oh
- total funding: PSC GPU (Bridges GPU): 10,000.0 GPU Hours (worth \$3,241.00),
- duration: 4/18/2018-4/19/2019
- funds allocated to S. Oh: 15,000.0 GPU Hours (worth \$1,620.00),

4. NVIDIA GPU grant

- title: “Counting network motifs with neural networks”
- PIs: Sewoong Oh

- total funding: Quadro P5000,
 - date: 2/2018
5. Google Faculty Research Award
 - title: “Optimal Mechanism Design for Private Data Sharing”
 - PIs: Sewoong Oh
 - total funding: \$50,000 (gift money)
 - date: 4/1/2017
 6. NSF, Division of Computing and Communication Foundations
 - title: “CIF: Medium: Anonymous Broadcasting over Networks: Fundamental Limits and Algorithms”
 - PIs: Pramod Viswanath (lead), Sewoong Oh, Giulia Fanti
 - total funding: \$876,840
 - duration: 9/1/2017-8/31/2020
 - funds allocated to S. Oh: \$292,280
 7. NSF, Division of Computing and Communication Foundations
 - title: “CAREER: Social Computation: Fundamental Limits and Efficient Algorithms”
 - PIs: Sewoong Oh
 - total funding: \$457,685
 - duration: 2/15/2016-2/14/2021
 8. NSF, Division Of Computer and Network Systems
 - title: “TWC: Small: Fundamental Limits in Differential Privacy”
 - PIs: Sewoong Oh
 - total funding: \$495,190
 - duration: 09/01/2015-08/31/2019
 9. NSF, Division Of Civil, Mechanical & Manufacturing Innovation
 - title: “EAGER: A Graphical Approach for Choice Modeling”
 - PIs: Sewoong Oh
 - total funding: \$87,937
 - duration: 01/01/2015-12/31/2015

Internal grants

1. University of Illinois, Strategic Instructional Initiatives Program
 - title: “Adaptive learning via big-data, the future of student-focused instruction”
 - PIs: M. West (lead), G. Dullerud, S. Oh, C. Zilles
 - total funding: \$240,000
 - duration: 07/01/2013-06/30/2015
 - funds allocated to S. Oh: \$20,000
2. University of Illinois, Strategic Research initiatives
 - title: “Big-Data Analytics in Resource-constrained Regime: Statistical Limits and Computational Challenges”

- PIs: Y. Wu (lead), C. Chekuri, B. Hajek, S. Oh, R. Srikant
- total funding: \$150,000
- duration: 07/01/2014-06/30/2016
- funds allocated to S. Oh: \$75,000

STUDENTS AND
POSTDOC ADVISING

Ph.D. Advisees

- Kiran Koshy Thekmpampil
 - Passed Quals (April 2016)
 - Expected Graduation (5/11/2020)
- Weihao Gao (co-advised with Pramod Viswanath)
 - Passed Quals (April 2016)
 - Expected Graduation (5/11/2019)
- Xiyang Liu
 - Expected Graduation (5/11/2021)

Postdocs

- Hyeji Kim (co-advised with Pramod Viswanath)
 - placement: starting at EE department at University of Notre Dame on Fall 2018

Alumni

- Peter Kairouz (co-advised with Pramod Viswanath)
 - Graduation with Ph.D. (5/10/2016)
 - thesis title “The Fundamental Limits of Statistical Data Privacy”
 - placement: Google Research
- Ashish Khetan
 - Graduation with PhD (5/11/2018)
 - thesis title “Social computation: fundamental limits and efficient algorithms”
 - placement: Amazon AI

Ph.D. Committees

- James Yifei Yang (advisor: Bruce Hajek), Jiaming Xu (advisor: Bruce Hajek), Pengkun Yang (advisor: Yihong Wu)

PROFESSIONAL
SERVICES

- Conference chair:
 - General co-chair: ACM SIGMETRICS conference 2017 (UIUC, Illinois)
 - Registration Chair: ACM SIGMETRICS conference 2014 (Austin, TX)
- Technical Program Committees:
 - ACM SIGMETRICS conference 2014-2019
 - Senior Program Committee of the International Conference on Artificial Intelligence and Statistics (AISTATS) 2019
- Workshop organizer:
 - ICML 2016 Workshop on Advanced in Non-convex Analysis and Optimization
 - NIPS 2015 Workshop on Non-convex Optimization for Machine Learning: Theory and Practice

- NIPS 2014 Workshop on Analysis of Rank Data: Confluence of Social Choice, Operations Research, and Machine Learning
- Conference session organizer:
 - INFORMS annual meeting, Session on "Applied Probability and Machine Learning II", 2016
 - IEEE Information Theory Workshop, 2015
 - Allerton conference on Communications, Control and Computing 2013-2017
- Journal refereeing:

Proceedings of the National Academy of Sciences (PNAS), Journal of Machine Learning Research (JMLR), IEEE Transactions on Information Theory, Annals of Statistics, IEEE Transactions on Networking, IEEE Transactions on Signal Processing, IEEE Transactions on Knowledge and Data Engineering, Constructive Approximation, Stochastic Systems, Management Science (MS), IEEE Transactions on Network Science and Engineering (TNSE), Discrete Applied Mathematics, Bernoulli, Journal of Artificial Intelligence Research (JAIR), ACM Transactions on Modeling and Performance Evaluation of Computing Systems (ToMPECS),
- Conference refereeing:

Neural Information Processing Systems (NIPS), International Conference on Machine Learning (ICML), International Conference on Learning Representations (ICLR), IEEE International Symposium on Information Theory (ISIT), IEEE Information Theory Workshop (ITW), Conference on Learning Theory (COLT), Manufacturing and Service Operations Management Society (MSOM)
- Panels: NSF RI 2017; NSF SaTC 2017;

UNIVERSITY
SERVICES

Department

- Scholarship and Awards Committee: 2012-2014
- Space Committee: 2012-2013
- Course and Curriculum Committee: 2012-2017
- Safety Committee: 2014-2015
- Advisory Committee: 2017-2019
- Faculty Search Committee: 2017-2018

University

- Ad hoc subcommittee to evaluate the course proposal: 2015
- Scholarship and Awards Committee: 2013-2014
- Library Committee: 2012-2013