

Suresh Venkatasubramanian

Education

1994-1999 **Ph.D**, *Stanford University*.
Computer Science

Employment

2017-present **Professor**, *School of Computing*, University of Utah.

2013-2017 **Associate Professor**, *School of Computing*, University of Utah.

Summer **Visiting Faculty**, *MADALGO*, Aarhus University.
2014

2013-2014 **Visiting Scientist**, *Google, Inc.*.

Fall 2013 **Visiting Scientist**, *Simons Institute for Theoretical Computer Science*.
Theory of Big Data

2007-2013 **Assistant Professor**, *School of Computing*, University of Utah.

1999-2007 **Member, Technical Staff**, *AT&T Labs–Research*.

2002-2008 **Adjunct Assistant Professor**, *Computer and Information Sciences*, University of Pennsylvania.

Jun-Sep **Summer intern**, *AT&T Labs*, Florham Park, New Jersey.
1998

February **Visitor**, *DIMACS*, Rutgers University, New Jersey.
1998 Visited DIMACS as part of the Special Year on Massive Data Sets

Jun-Sep **Summer intern**, *DEC SRC*, Palo Alto, California.
1997

1994-1999 **Research Assistant**, *Stanford University*, Stanford, California.

Awards

- Dean's commendation letter for teaching excellence, 2016-2017.
- ICDE 2017 Influential Paper (10-year test-of-time) Award for "t-closeness: A new privacy measure for data publishing".
- 2nd MultiClust Workshop (ECML-PKDD 2011) Best Paper Award for "Generating a diverse set of high-quality clusterings".
- NSF CAREER award (2010-2015)
- John E. and Marva M. Warnock Presidential Endowed Chair for Faculty Innovation in Computer Science (2007-2013)
- Dean's Commendation letter for teaching excellence, Spring 2008, Fall 2008, Spring 2009, Fall 2009, Spring 2010.
- School of Engineering Fellowship, Stanford University, 1994-1995.
- Senate Award for Academic Excellence, I.I.T Kanpur.
- Academic Proficiency Award, I.I.T. Kanpur, all years. [1990-94].

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Research Funding

#	Source	Period	Status	Total	Utah	MineShare (of total)
1	NSF	2016–2019	PI	\$953,431	\$484,071	\$484,071 50%
2	Knight Foundation	2016	co-PI	\$35,000	\$17,500	\$17,500 50%
3	DARPA	2015–2019	co-PI	\$2,975,564	\$2,000,000	\$500,000 17%
4	NSF	2013–2017	co-PI	\$1,140,746	\$1,140,746	\$273,187 24%
5	NSF	2013–2017	PI	\$750,000	\$500,000	\$250,000 33%
6	NSF	2011–2015	PI	\$347,716	\$347,716	\$220,044 63%
7	NSF	2010–2014	co-PI	\$1,044,103	\$757,498	\$198,856 19%
8	NSF	2010–2016	PI	\$505,081	\$505,081	\$505,081 100%
9	NSF	2009–2011	PI	\$275,000	–	–
10	Google	2009–2010	co-PI	\$55,000	\$55,000	\$27,500 50%
11	University of Utah	2008–2009	PI	\$35,000	\$35,000	\$35,000 100%
12	NSF	2009–2010	PI	\$49,868	\$49,868	\$49,868 100%
13	NSF	2005–2006	PI	\$7,000	n/a	\$7,000 100%

Information about the grants.

1. BIGDATA: Collaborative Research: F: Algorithmic Fairness: A Systemic and Foundational Treatment of Nondiscriminatory Data Mining. *Co-PIs: Sorelle Friedler (Haverford College), danah boyd (Data & Society)*
2. Is your data biased? *PI: Wilneida Negron (Data & Society). Co-PIs: Sorelle Friedler (Haverford College), Surya Mattu (ProPublica).*
3. A4V: Automated Analysis of Algorithmic Attack Vulnerabilities. *PI: Matthew Might (Utah). Co-PIs: Michael Goodrich (UC Irvine).*
4. NeTS: Medium: KnowOps-Making Network Management and Operations Software Defined. *PI: Jacobus van der Merwe (Utah), Co-PIs: Sneha Kasera (Utah), Robert Ricci (Utah)*
5. BIGDATA: Small: DA: Collaborative Research: From Data to Users: Providing Interpretable and Verifiable Explanations in Data Mining. *Co-PIs: Thomas Fletcher (Utah), Andrew McGregor (UMass).*
6. AF: Small: Synopsis Data Structures for Data Analysis in Shape Spaces. *Senior Personnel: Jeff Phillips (Utah).*
7. CPS: Medium: Collaborative Research: Enabling and Advancing Human and Probabilistic Context Awareness for Smart Facilities and Elder Care. *PI: Neal Patwari (Utah). Co-PIs: Sneha Kasera (Utah), Anind Dey (CMU).*
8. CAREER: Geometric Algorithms For Data Analysis In Spaces Of Distributions.
9. Computing Innovation Fellowship for mentoring post-doc Jeff Phillips.
10. Streamed Learning for NLP. *PI: Hal Daumé.*
11. Scalable, Accurate and Efficient Data Analysis for Medical Imaging. *Co-PI: Sarang Joshi (Utah)*
12. SGER: Scalable Shape Analysis in Non-Euclidean Spaces with Provable Guarantees.
13. Workshop on Computational Geometry and Visualization. *Co-PI: Joseph Mitchell (Stony Brook).*

Manuscripts

- [M1] S. A. Friedler, C. Scheidegger, S. Venkatasubramanian, S. Choudhary, E. P. Hamilton, and D. Roth. A comparative study of fairness-enhancing interventions in machine learning. *arXiv:1802.04422 [cs, stat]*, Feb. 2018. arXiv: 1802.04422.
- [M2] A. Bhaskara, S. Daruki, and S. Venkatasubramanian. Sublinear algorithms for MAX CUT and correlation clustering. Manuscript., 2017.
- [M3] S. A. Friedler, C. Scheidegger, and S. Venkatasubramanian. On the (im)possibility of fairness. *CoRR*, abs/1609.07236, 2016.
- [M4] A. Paul and S. Venkatasubramanian. Why does deep learning work – a perspective from group theory, 2014.

Patents

- [P1] N. Mustafa, S. Krishnan, and S. Venkatasubramanian. Hardware-assisted View Dependent Map Simplification. U.S. Patent 6,812,925.
- [P2] A. Broder, M. Burrows, M. Henzinger, S. Ghemawat, P. Kumar, and S. Venkatasubramanian. The Connectivity Server. U.S. Patent 6,073,135.
- [P3] S. Krishnan, P. Y. Lee, J. B. Moore, and S. Venkatasubramanian. Global registration of multiple 3d point sets via optimization on a manifold. U.S. Patent 8,538,138.
- [P4] D. Srivastava and S. Venkatasubramanian. Method and apparatus for tag topology. U.S. Patent 8,818,984.

Conferences

- [C1] D. Ensign, S. A. Friedler, S. Neville, C. Scheidegger, and S. Venkatasubramanian. Decision making with limited feedback: Error bounds for recidivism prediction and predictive policing. In *Algorithmic Learning Theory (ALT)*, 2018.
- [C2] D. Ensign, S. A. Friedler, S. Neville, C. Scheidegger, and S. Venkatasubramanian. Run-away feedback loops in predictive policing. In *1st Conference on Fairness, Accountability and Transparency in Computer Science (FAT*)*, 2018.
- [C3] D. Ensign, S. Neville, A. Paul, and S. Venkatasubramanian. The complexity of explaining neural networks through (group) invariants. In *Algorithmic Learning Theory (ALT)*, 2017.
- [C4] P. Adler, C. Falk, S. A. Friedler, G. Rybeck, C. Scheidegger, B. Smith, and S. Venkatasubramanian. Auditing black-box models for indirect influence. In *Proc. IEEE International Conference on Data Mining*, 2016.
- [C5] A. Abdullah, S. Daruki, C. D. Roy, and S. Venkatasubramanian. Streaming verification of graph properties. In *Algorithms and Computation: 27th International Symposium, ISAAC 2016*, 2016.

- [C6] J. Moeller, V. Srikumar, S. Swaminathan, S. Venkatasubramanian, and D. Webb. Continuous kernel learning. In *Proceedings of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery*, 2016.
- [C7] J. Moeller, S. Swaminathan, and S. Venkatasubramanian. A unified view of localized kernel learning. In *Proceedings of the SIAM conference on Data Mining*, 2016.
- [C8] M. Feldman, S. Friedler, J. Moeller, C. Scheidegger, and S. Venkatasubramanian. Certifying and removing disparate impact. In *21st ACM Symposium on Knowledge Discovery and Data Mining (KDD)*, 2015.
- [C9] A. Abdullah, R. Kumar, A. McGregor, S. Vassilvitskii, and S. Venkatasubramanian. Sketching, embedding, and dimensionality reduction for information spaces. In *19th International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2016.
- [C10] S. Daruki, J. Thaler, and S. Venkatasubramanian. Streaming verification in data analysis. In *Algorithms and Computation: 26th International Symposium, ISAAC 2015, Nagoya, Japan, December 9-11, 2015, Proceedings*, pages 715–726, Berlin, Heidelberg, 2015. Springer Berlin Heidelberg.
- [C11] A. Abdullah and S. Venkatasubramanian. A directed isoperimetric inequality with application to bregman near neighbor lower bounds. In *Proceedings of the Forty-Seventh Annual ACM on Symposium on Theory of Computing, STOC '15*, pages 509–518, New York, NY, USA, 2015. ACM.
- [C12] A. Chakrabarti, G. Cormode, A. McGregor, J. Thaler, and S. Venkatasubramanian. Verifiable Stream Computation and Arthur-Merlin Communication. In D. Zuckerman, editor, *30th Conference on Computational Complexity (CCC 2015)*, volume 33 of *Leibniz International Proceedings in Informatics (LIPIcs)*, pages 217–243, Dagstuhl, Germany, 2015. Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik.
- [C13] J. Moeller, P. Raman, A. Saha, and S. Venkatasubramanian. A geometric algorithm for scalable multiple kernel learning. In *17th International Conference on Artificial Intelligence and Statistics (AISTATS)*, pages 633–642, 2014.
- [C14] P. Chalermsook and S. Venkatasubramanian. Clustering With Center Constraints. In A. Seth and N. K. Vishnoi, editors, *IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS 2013)*, volume 24 of *Leibniz International Proceedings in Informatics (LIPIcs)*, pages 401–412, Dagstuhl, Germany, 2013. Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik.
- [C15] P. Hillyard, S. Daruki, N. Patwari, and S. Venkatasubramanian. Track estimation using link line crossing information in wireless networks. In *Global Conference on Signal and Information Processing (GlobalSIP), 2013 IEEE*, pages 1037–1040, Dec 2013.
- [C16] P. Raman and S. Venkatasubramanian. Power to the points: Validating data memberships in clusterings. In *Proc. IEEE International Conference on Data Mining (ICDM)*, 2013.
- [C17] Y. Zhao, N. Patwari, J. Phillips, and S. Venkatasubramanian. Radio tomographic imaging and tracking of stationary and moving people via histogram difference. In *12th ACM/IEEE Conference on Information Processing in Sensor Networks (IPSN)*, 2013.

- [C18] H. Daumé, J. Phillips, A. Saha, and S. Venkatasubramanian. Efficient protocols for distributed classification and optimization. In *Proc. 23rd International Conference on Algorithmic Learning Theory (ALT)*, 2012.
- [C19] A. Abdullah, J. Moeller, and S. Venkatasubramanian. Approximate bregman near neighbors in sublinear time: Beyond the triangle inequality. In *Proc. 28th ACM Symposium on Computational Geometry*, June 2012.
- [C20] H. Daumé, J. Phillips, A. Saha, and S. Venkatasubramanian. Protocols for learning on massive distributed data. In *Proc. 15th International Conference on Artificial Intelligence and Statistics*, 2012.
- [C21] A. Saha, P. Rai, H. Daumé III, S. Venkatasubramanian, and S. L. DuVall. Active supervised domain adaptation. In *Proc. European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD)*, 2011.
- [C22] P. T. Fletcher, J. Moeller, J. M. Phillips, and S. Venkatasubramanian. Computing hulls and centerpoints in positive definite space. In *Algorithms and Data Structures Symposium (WADS)*, 2011.
- [C23] J. Phillips, P. Raman, and S. Venkatasubramanian. Spatially-aware comparison and consensus for clusterings. In *2011 SIAM International Conference on Data Mining*, April 2011.
- [C24] H. Daumé, P. Rai, A. Saha, and S. Venkatasubramanian. Online learning of tasks and their relationships. In *14th International Conference on Artificial Intelligence and Statistics (AISTATS)*, April 2011.
- [C25] S. Joshi, R. V. Kommaraju, J. Phillips, and S. Venkatasubramanian. Comparing shapes and distributions using the kernel distance. In *27th ACM Symposium on Computational Geometry*, June 2011.
- [C26] A. Agarwal, J. Phillips, and S. Venkatasubramanian. Universal multidimensional scaling. In *Proc. ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, 2010.
- [C27] T. Dasu, S. Krishnan, D. Lin, S. Venkatasubramanian, and K. Yi. Change (detection) you can believe in: Finding distributional shifts in data. In *Proc. Intelligent Data Analysis Symposium*, Aug 2009.
- [C28] P. Rai, H. Daumé, and S. Venkatasubramanian. Streamed Learning: One-Pass SVMs. In *Proc. 21st International Joint Conference on Artificial Intelligence (IJCAI)*, 2009.
- [C29] A. Goyal, S. Venkatasubramanian, and H. Daumé. Streaming for large scale NLP: Language Modelling. In *Proc. NAACL-HLT*, 2009.
- [C30] B. Amadi, M. Hadjieleftheriou, T. Seidl, D. Srivastava, and S. Venkatasubramanian. Type-based categorization of relational attributes. In *Proc. 12th International Conference on Extending Database Technology (EDBT)*, pages 84–95, 2009.
- [C31] S. Krishnan and S. Venkatasubramanian. Approximate symmetry detection for 3D shapes with guaranteed error bounds. In *IEEE Shape Modelling International (SMI)*, 2009.
- [C32] N. Koudas, A. Saha, D. Srivastava, and S. Venkatasubramanian. Metric functional dependencies. In *25th International Conference on Data Engineering (ICDE)*, 2009.

- [C33] P. T. Fletcher, S. Venkatasubramanian, and S. Joshi. Robust statistics on riemannian manifolds via the geometric median. In *Proc. Conference on Vision and Pattern Recognition (CVPR)*, 2008.
- [C34] B. T. Dai, N. Koudas, D. Srivastava, A. K. H. Tung, and S. Venkatasubramanian. Validating multi-column schema matchings by type. In *24th International Conference on Data Engineering (ICDE)*, pages 120–129, 2008.
- [C35] N. Li, T. Li, and S. Venkatasubramanian. t-closeness: Privacy beyond k-anonymity and l-diversity. In *23rd International Conference on Data Engineering, (ICDE)*, pages 106–115, 2007.
- [C36] A. Gopal, D. Niebuhr, and S. Venkatasubramanian. Dc power flow based contingency analysis using graphics processing units. In *PowerTech*, pages 731–736, 2007.
- [C37] A. Buchsbaum, E. Gansner, and S. Venkatasubramanian. Directed graphs and rectangular layouts. In *6th International Asia-Pacific Symposium on Visualization*, pages 61–64, Feb. 2007.
- [C38] A. L. Buchsbaum, A. Efrat, S. Jain, S. Venkatasubramanian, and K. Yi. Restricted strip covering and the sensor cover problem. In *SODA '07: Proceedings of the eighteenth annual ACM-SIAM symposium on Discrete algorithms*, pages 1056–1063, Philadelphia, PA, USA, 2007. Society for Industrial and Applied Mathematics.
- [C39] B. T. Dai, N. Koudas, B. C. Ooi, D. Srivastava, and S. Venkatasubramanian. Rapid identification of column heterogeneity. In *ICDM '06: Proceedings of the Sixth International Conference on Data Mining*, pages 159–170, Washington, DC, USA, 2006. IEEE Computer Society.
- [C40] D. Agarwal, A. McGregor, J. M. Phillips, S. Venkatasubramanian, and Z. Zhu. Spatial scan statistics: approximations and performance study. In *Proc. 12th ACM SIGKDD international conference on Knowledge discovery and data mining (KDD)*, pages 24–33, 2006.
- [C41] S. Guha, A. McGregor, and S. Venkatasubramanian. Streaming and sublinear approximation of entropy and information distances. In *SODA '06: Proceedings of the seventeenth annual ACM-SIAM symposium on Discrete algorithm*, pages 733–742, New York, NY, USA, 2006. ACM.
- [C42] D. Agarwal, J. M. Phillips, and S. Venkatasubramanian. The hunting of the bump: on maximizing statistical discrepancy. In *SODA '06: Proceedings of the seventeenth annual ACM-SIAM symposium on Discrete algorithm*, pages 1137–1146, New York, NY, USA, 2006. ACM.
- [C43] S. Krishnan, P. Y. Lee, J. B. Moore, and S. Venkatasubramanian. Global registration of multiple 3d point sets via optimization-on-a-manifold. In *SGP '05: Proceedings of the third Eurographics symposium on Geometry processing*, pages 187–197, Aire-la-Ville, Switzerland, Switzerland, 2005. Eurographics Association.
- [C44] B. Krishnamurthy, S. Venkatasubramanian, and H. V. Madhyastha. On stationarity in internet measurements through an information-theoretic lens. In *ICDEW '05: Proceedings of the 21st International Conference on Data Engineering Workshops*, pages 1185–1191, Washington, DC, USA, 2005. IEEE Computer Society.
- [C45] Q. Fan, A. Efrat, V. Koltun, S. Krishnan, and S. Venkatasubramanian. Hardware assisted natural neighbour interpolation. In *Proc. 7th Workshop on Algorithm Engineering and Experiments (ALENEX)*, pages 111–120, 2005.

- [C46] D. Johnson, S. Krishnan, J. Chhugani, S. Kumar, and S. Venkatasubramanian. Compressing large boolean matrices using reordering techniques. In *VLDB '04: Proceedings of the Thirtieth international conference on Very large data bases*, pages 13–23. VLDB Endowment, 2004.
- [C47] P. Agarwal, S. Krishnan, N. Mustafa, and S. Venkatasubramanian. Streaming geometric optimization using graphics hardware. In *Proc. 11th European Symposium on Algorithms*, volume 2832 of *LNCS*, pages 544–555, 2003.
- [C48] S. Guha, S. Krishnan, K. Munagala, and S. Venkatasubramanian. Application of the two-sided depth test to csg rendering. In *I3D '03: Proceedings of the 2003 symposium on Interactive 3D graphics*, pages 177–180, New York, NY, USA, 2003. ACM.
- [C49] S. Venkatasubramanian. The graphics card as a stream computer. In *SIGMOD Workshop on Management and Processing of Massive Data*, 2003.
- [C50] S. Krishnan, N. H. Mustafa, and S. Venkatasubramanian. Hardware-assisted computation of depth contours. In *SODA '02: Proceedings of the thirteenth annual ACM-SIAM symposium on Discrete algorithms*, pages 558–567, Philadelphia, PA, USA, 2002. Society for Industrial and Applied Mathematics.
- [C51] N. Mustafa, E. Koutsofios, S. Krishnan, and S. Venkatasubramanian. Hardware-assisted view-dependent map simplification. In *SCG '01: Proceedings of the seventeenth annual symposium on Computational geometry*, pages 50–59, New York, NY, USA, 2001. ACM.
- [C52] A. Efrat, P. Indyk, and S. Venkatasubramanian. Pattern matching for sets of segments. In *SODA '01: Proceedings of the twelfth annual ACM-SIAM symposium on Discrete algorithms*, pages 295–304, Philadelphia, PA, USA, 2001. Society for Industrial and Applied Mathematics.
- [C53] R. Motwani, R. Panigrahy, V. Saraswat, and S. Venkatasubramanian. On the decidability of accessibility problems (extended abstract). In *STOC '00: Proceedings of the thirty-second annual ACM symposium on Theory of computing*, pages 306–315, New York, NY, USA, 2000. ACM.
- [C54] A. L. Buchsbaum, M. Goldwasser, S. Venkatasubramanian, and J. R. Westbrook. On external memory graph traversal. In *SODA '00: Proceedings of the eleventh annual ACM-SIAM symposium on Discrete algorithms*, pages 859–860, Philadelphia, PA, USA, 2000. Society for Industrial and Applied Mathematics.
- [C55] P. Indyk and S. Venkatasubramanian. Approximate congruence in nearly linear time. In *SODA '00: Proceedings of the eleventh annual ACM-SIAM symposium on Discrete algorithms*, pages 354–360, Philadelphia, PA, USA, 2000. Society for Industrial and Applied Mathematics.
- [C56] P. Indyk, R. Motwani, and S. Venkatasubramanian. Geometric matching under noise: combinatorial bounds and algorithms. In *SODA '99: Proceedings of the tenth annual ACM-SIAM symposium on Discrete algorithms*, pages 457–465, Philadelphia, PA, USA, 1999. Society for Industrial and Applied Mathematics.
- [C57] M. Gavrilov, P. Indyk, R. Motwani, and S. Venkatasubramanian. Geometric pattern matching: a performance study. In *SCG '99: Proceedings of the fifteenth annual symposium on Computational geometry*, pages 79–85, New York, NY, USA, 1999. ACM.
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- [C59] J. Kleinberg, R. Motwani, P. Raghavan, and S. Venkatasubramanian. Storage management for evolving databases. In *FOCS '97: Proceedings of the 38th Annual Symposium on Foundations of Computer Science (FOCS '97)*, page 353, Washington, DC, USA, 1997. IEEE Computer Society.
- [C60] P. Finn, L. Kavraki, R. Motwani, J.-C. Latombe, and S. Venkatasubramanian. Search techniques for rational drug design. In *IIS '97: Proceedings of the 1997 IASTED International Conference on Intelligent Information Systems (IIS '97)*, page 2, Washington, DC, USA, 1997. IEEE Computer Society.
- [C61] P. W. Finn, L. E. Kavraki, J.-C. Latombe, R. Motwani, C. R. Shelton, S. Venkatasubramanian, and A. Yao. Rapid: Randomized pharmacophore identification for drug design. In *Symposium on Computational Geometry*, pages 324–333, 1997.

Journals

- [J1] P. Adler, C. Falk, S. A. Friedler, G. Rybeck, C. Scheidegger, B. Smith, and S. Venkatasubramanian. Auditing black-box models for indirect influence. *Knowledge and Information Systems*, 2017. To appear.
- [J2] M. Bocca, O. Kaltiokallio, N. Patwari, and S. Venkatasubramanian. Multiple target tracking with rf sensor networks. *IEEE Transactions on Mobile Computing*, 99(PrePrints):1, 2013.
- [J3] A. Abdullah, J. Moeller, and S. Venkatasubramanian. Approximate bregman near neighbors in sublinear time: beyond the triangle inequality. *Int. J. Comput. Geometry Appl.*, 23(4-5):253–302, 2013.
- [J4] A. Goyal, L. V. S. Lakshmanan, F. Bonchi, and S. Venkatasubramanian. On minimizing budget and time in influence propagation over social networks. *Social Network Analysis and Mining*, 2012. In press.
- [J5] S. Guha, A. McGregor, and S. Venkatasubramanian. Sublinear estimation of entropy and information distances. *ACM Trans. Algorithms*, 5(4):1–16, 2009.
- [J6] T. Li, N. Li, and S. Venkatasubramanian. t -closeness: A new privacy measure for data publishing. *IEEE Transactions on Data Knowledge and Engineering*, 22(7):943–956, 2010.
- [J7] P. T. Fletcher, S. Venkatasubramanian, and S. Joshi. The Geometric Median on Riemannian Manifolds with Application to Robust Atlas Estimation. *Neuroimage (invited to special issue)*, 45(1):S143–S152, March 2009. Supplement 1.
- [J8] A. L. Buchsbaum, E. R. Gansner, C. M. Procopiuc, and S. Venkatasubramanian. Rectangular layouts and contact graphs. *ACM Trans. Algorithms*, 4(1):1–28, 2008.
- [J9] A. Efrat, Q. Fan, and S. Venkatasubramanian. Curve matching, time warping, and light fields: New algorithms for computing similarity between curves. *Journal of Mathematical Imaging and Vision*, 27(3):203–216, 2007.
- [J10] N. Mustafa, S. Krishnan, and S. Venkatasubramanian. Statistical data depth and the graphics hardware. In R. Liu, R. Serfling, and D. Souvaine, editors, *Data Depth: Robust Multivariate Analysis, Computational Geometry and Applications*, volume 72, pages 223–246. AMS, 2006.

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- [J13] M. Gavrilov, P. Indyk, R. Motwani, and S. Venkatasubramanian. Combinatorial and experimental methods for approximate point pattern matching. *Algorithmica*, 38:59–90, 2004.
- [J14] A. Efrat, P. Indyk, and S. Venkatasubramanian. Pattern matching for sets of segments. *Algorithmica*, 40:147–160(14), August 2004.
- [J15] P. Indyk and S. Venkatasubramanian. Approximate congruence in nearly linear time. *Computational Geometry: Theory and Applications*, 24(2):115–128, 2003.
- [J16] P. Finn, L. Kavradi, R. Motwani, J.-C. Latombe, C. Shelton, S. Venkatasubramanian, and A. Yao. Rapid: Randomized pharmacophore identification in drug design. *Computational Geometry: Theory and Applications*, 10(4):263–272, 1998.
- [J17] P. Finn, D. Halperin, J.-C. Latombe, L. Kavradi, R. Motwani, C. Shelton, and S. Venkatasubramanian. Geometric manipulation of flexible ligands. *Lecture Notes in Computer Science*, 1148:67–78, 1996.
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- [J19] N. Shivakumar and S. Venkatasubramanian. Energy efficient indexing for information dissemination in wireless systems. *ACM-Baltzer Journal of Mobile Networks and Nomadic Applications (NOMAD)*, 1995.

Peer-Reviewed Workshops

- [W1] D. Ensign, S. A. Friedler, S. Neville, C. Scheidegger, and S. Venkatasubramanian. Decision making with limited feedback: Error bounds for recidivism prediction and predictive policing. In *4th Workshop on Fairness, Accountability and Transparency in Machine Learning (FATML)*, 2017.
- [W2] D. Ensign, S. A. Friedler, S. Neville, C. Scheidegger, and S. Venkatasubramanian. Run-away feedback loops in predictive policing. In *4th Workshop on Fairness, Accountability and Transparency in Machine Learning (FATML)*, 2017.
- [W3] P. Hillyard, N. Patwari, S. Daruki, and S. Venkatasubramanian. You’re crossing the line: localizing border crossings using wireless rf links. In *Signal Processing and Signal Processing Education Workshop (SP/SPE), 2015 IEEE*, pages 249–254. IEEE, 2015.
- [W4] J. Moeller, P. Raman, A. Saha, and S. Venkatasubramanian. Fast multiple kernel learning with multiplicative weight updates. In *NIPS Workshop on Optimization (OPT)*, 2012.

- [W5] A. Agarwal, H. D. III, J. Phillips, and S. Venkatasubramanian. Sensor network localization for moving sensors. In *IEEE ICDM Workshop on Data Mining in Networks*, 2012.
- [W6] J. Phillips, P. Raman, and S. Venkatasubramanian. Generating a diverse set of high-quality clusterings. In *Proc. 2nd MultiClust Workshop: Discovering, Summarizing and Using Multiple Clusterings (held in conjunction with ECML-PKDD 2011)*, 2011.
- [W7] S. Venkatasubramanian and Q. Wang. The johnson-lindenstrauss transform: An empirical study. In *Proc. 13th Workshop on Algorithm Engineering and Experiments (ALENEX)*, pages 164–173, 2011.
- [W8] A. V. P. Grosset, P. Zhu, S. Liu, S. Venkatasubramanian, and M. Hall. Evaluating graph colorings on the gpu (poster). In *16th ACM SIGPLAN Annual Symposium on Principles and Practice of Parallel Programming*, February 2011.
- [W9] R. J. Kyng, J. M. Phillips, and S. Venkatasubramanian. Johnson-Lindenstrauss dimensionality reduction on the simplex. In *20th Fall Workshop on Computational Geometry*, October 2010.
- [W10] A. Goyal, J. Jagarlamudi, H. Daumé, and S. Venkatasubramanian. Sketch techniques for scaling distributional similarity to the web. In *GEMS: Workshop on GEometrical Models of natural language Semantics (in conjunction with ACL 2010)*, 2010.
- [W11] M. Bocca, S. Gupta, O. Kaltiokallio, B. Mager, Q. Tate, S. Kasera, N. Patwari, and S. Venkatasubramanian. Rf-based device-free localization and tracking for ambient assisted living. In *Evaluating AAL Systems through Competitive Benchmarking (EvAAL) Workshop*, 2012.
- [W12] A. Saha, P. Rai, S. Venkatasubramanian, and H. Daumé. Domain adaptation meets active learning. In *Workshop on Active Learning For NLP (in conjunction with NAACL-HLT)*, 2010.
- [W13] A. Goyal, J. Jagarlamudi, H. Daumé, and S. Venkatasubramanian. Sketching techniques for large-scale nlp. In *6th Web as Corpus Workshop (in conjunction with NAACL-HLT)*, 2010.

Book Chapters

- [BC1] S. Venkatasubramanian. On measures of privacy. In C. Aggarwal and P. S. Yu, editors, *Privacy-Preserving Data Mining: Models and Algorithms*, pages 81–103. Springer, 2008.
- [BC2] S. Venkatasubramanian. Clustering on streams. In *Encyclopedia of Database Systems*, pages 378–383. Springer US, 2009.

Books

- [B1] S. Vassilvitskii and S. Venkatasubramanian. *Clustering: A conceptual approach*. Cambridge University Press, 2017. In preparation.

Articles

- [A1] S. Venkatasubramanian. Moving heaven and earth: Distances between distributions. *SIGACT News*, 44(3):56–68, 2013.

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- [A2] S. Venkatasubramanian. New developments in matrix factorization. *SIGACT News*, 44(1):70–78, 2013.
- [A3] S. Venkatasubramanian. Discrete mathematical problems with medical applications dimacs volume 55. *SIGACT News*, 33(4):9–11, 2002.
- [A4] S. Venkatasubramanian. A theory repository on the web: a proposal. *SIGACT News*, 30(4):91–95, 1999.

Teaching

- **Fall 2017:** Ethics in Data Science
- **Fall 2017:** *Seminar:* Reading Classic Theory Papers
- **Spring 2017:** Advanced Algorithms
- **Spring 2017:** When Machines Decide
- **Fall 2016:** Clustering
- **Fall 2016:** When Machines Decide
- **Spring 2016:** Computational Geometry
- **Spring 2016:** *Seminar:* Reading with Purpose
- **Fall 2015:** Advanced Algorithms
- **Spring 2015:** Clustering
- **Fall 2014:** Advanced Algorithms
- **Fall 2014:** *Seminar:* Communication Complexity
- **Spring 2013:** Computational Geometry
- **Spring 2013:** *Seminar:* Accountability in Data Mining
- **Fall 2012:** Advanced Algorithms
- **Spring 2012:** Discrete Structures
- **Fall 2011:** Advanced Algorithms
- **Fall 2011:** *Seminar:* Heuristics for Algorithm Design
- **Fall 2010:** Advanced Algorithms
- **Fall 2010:** *Seminar:* Modelling data with uncertainty
- **Spring 2010:** Computational Geometry
- **Spring 2010:** *Seminar:* Topics in Graph Algorithms
- **Fall 2009:** Advanced Algorithms
- **Fall 2009:** *Seminar:* Approximation Algorithms
- **Spring 2009:** Computational Geometry
- **Spring 2009:** *Seminar:* Clustering
- **Fall 2008:** Advanced Algorithms
- **Fall 2008:** Randomized Algorithms
- **Spring 2008:** *Seminar:* The Geometry of Information Spaces
- **Fall 2007:** Advanced Algorithms
- **Fall 2007:** *Seminar:* Approximate High Dimensional Geometry
- **Spring 2007:** Computational Geometry

Media Exposure

- Oct 4, 2017. Biased policing is made worse by errors in pre-crime algorithms (Matt Reynolds, New Scientist)
- Sep 19, 2017: To Fix Its Toxic Ad Problem, Facebook Must Break Itself (Wired, by Issie Lapowsky)
- Sep 5 2017: Künstliche Intelligenz voller Vorurteile (Neue Zürcher Zeitung, by Eva Wolfangel)
- Aug 31, 2017. When Machines Decide Your Fate (Talk at SLC Public Library)
- Aug 29, 2017: When algorithms decide your fate (RadioActive, on KRCL Radio)
- Jul 20, 2017: Technology Is Biased Too. How Do We Fix It? (FiveThirtyEight, by Laura Hudson)
- Jun 23, 2017: 15 years after 'Minority Report': A cautionary film, ignored. (CNN, by Matt McFarland)
- Apr 30, 2017: Algorithmic accountability: Algorithms are designed to make our lives easier. The problem is, they're designed by us. (TechCrunch, by Megan Rose Dickey)
- Apr 14, 2017: Artificial intelligence: How to avoid racist algorithms. (BBC News, by Zoe Kleinman)
- Apr 13, 2017: Bad News: Artificial Intelligence Is Racist, Too (Live Science by Stephanie Pappas)
- Apr 13, 2017: Scientists Taught A Robot Language. It Immediately Turned Racist. (BuzzFeed News by Nidhi Subbaraman)
- Apr 13, 2017: AI Learns Gender and Racial Biases from Language (IEEE Spectrum by Jeremy Hsu)
- Mar 10, 2017: Algorithms Learn From Us, And We've Been Bad Parents (NBC News (Mach), by Bahar Ghohipour)
- Sep 27, 2016: To Make AI Less Biased, Give It a Worldview (Jordan Pearson, Motherboard)
- Sep 19, 2016: The Digital Show (Business Radio @ Wharton)
- Sept 8, 2016: A beauty contest was judged by AI and the robots didn't like dark skin (The Guardian, by Sam Levin)
- Aug 3, 2016: Is an algorithm any less racist than a human? (Leigh Alexander, the Guardian)
- July 28, 2016: Pokemon Go shows how technology reflects real-world biases, says prof (CBC Radio's The Current)
- July 18, 2016: Does Crime-Predicting Software Bias Judges? Unfortunately, There's No Data. (Motherboard, by Rose Eveleth)
- July 1, 2016: Not All Swastika Tattoos Are the Same (Yael Grauer, Slate)
- Apr 21, 2016: Amazon Doesn't Consider the Race of Its Customers. Should It? (Bloomberg, by David Ingold and Spencer Soper)
- Apr 14, 2016: Investigating the algorithms that govern our lives (CJR, by Chava Gourarie)
- Mar 21, 2016: Design Bias: The Inherent Bias of Facial Recognition (Motherboard, by Rose Eveleth)
- Mar 20, 2016: When Computers Stand in the Schoolhouse Door (Communications of the ACM)
- Mar 15, 2016: Can Computer Programs Be Racist And Sexist? (NPR's All Tech Considered)
- Mar 08, 2016: The quantified life (podcast by Rose Eveleth)
- Dec 20, 2015: Even an algorithm can be unfair (CBC Radio's The Spark, with Nora Young)
- Nov 20, 2015: Why Machines Discriminate and How to Fix Them (Science Friday)
- Sep 24, 2015: Interview with KPCW's Cool Science Radio
- Sep 7, 2015: Computer algorithms can be biased, but U. team says it can fix problem (Deseret News)
- Aug 21, 2015: Computer scientists find bias in algorithms (IEEE Spectrum)
- Aug 19, 2015: Top of the Mind with Julie Rose (BYU Radio)

- Aug 17, 2015: It's not just humans, COMPUTERS can be prejudiced too: Software may accidentally sort job applications based on race or gender (The Daily Mail)
- Aug 16, 2015: Computer programs can be as biased as humans (Gizmodo)
- Aug 16, 2015: Computer programs can be as biased as humans (NBC News)
- Jul 20, 2015: Racism/sexism in tech (Al Jazeera America)
- Apr 19, 2015: U Computer Scientists Working with Department of Defense on Cybersecurity (KUER)

Presentations

Tutorials

- From Pigeons to Fano and Beyond. *Nexus of Information and Computation, February 2016.*
- New Developments in the theory of clustering. *16th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2010* (with Sergei Vassilvitskii).
- Information Theory for Data Management. *ACM Symposium on the Management of Data (SIGMOD) 2010.* (with Divesh Srivastava).
- Information Theory for Data Management. *35th International Conference on Very Large Databases (VLDB), 2009.* (with Divesh Srivastava).
- Data Visualization and Mining Using The GPU. *11th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2005.* (with S. Guha and S. Krishnan)

Distinguished/Invited Lectures/Keynotes

1. Feedback, big data and policing. Shaping Justice (U. Virginia). [2/2018]
2. Computational Philosophy: Fairness in Automated Decision making. Keynote at 28th International Symposium on Algorithms and Computation (ISAAC). [12/2017]
3. Sublinear verification in data analysis. Keynote at 27th Fall Workshop on Computational Geometry, Stony Brook University. [11/2017]
4. Computational Philosophy and Data Driven Science. Stony Brook University. [11/2017]
5. Ethical Auditing for Accountable Automated Decision-making. Oxford Internet Institute. [10/2017]
6. Panelist, United Nations Special Rapporteur on Privacy Meeting on Privacy, Personalization and AI [9/2017]
7. Algorithmic fairness: From social good to mathematical framework. The Oringer Lecture, Cal-Tech [5/2017]
8. Algorithmic fairness: From social good to mathematical framework. Boise State University. [3/2017]
9. Algorithmic fairness: From social good to mathematical framework. Oregon State University. [11/2016]
10. An Axiomatic Perspective on Fairness. Dagstuhl Seminar "Data, Responsibly", Germany. [7/2016]
11. Algorithmic fairness: From social good to mathematical framework. Keynote address, 10th AAAI International Conference on the Web and Social Media (ICWSM), Cologne, Germany. [5/2016]
12. A mathematical theory of fairness. Automation, Prediction and Digital Inequalities. Department of Media and Communication, London School of Economics. [4/2016]
13. A Group-theoretic perspective on deep learning. Information Theory and Applications 2016, San Diego. [2/2016]
14. Algorithmic Fairness. Microsoft Social Computing Symposium, New York. [1/2016]
15. Verifying outsourced computation in a few rounds. Sublinear Algorithms Workshop, Baltimore. [1/2016]
16. Challenges in Fairness-Aware Data Mining. Infosys, Pune. [8/2015]
17. Verifying outsourced computations in a few rounds. Bertinoro Workshop on Algorithms and

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Data Structures [6/2015]

18. Accountability in Data Mining. Directions in Computer Science, IIT Kanpur. [12/2014]
19. Verifying outsourced computations in a few rounds. UC Irvine. [12/2014]
20. Lower bounds for approximate near neighbor search with Bregman divergences. Bertinoro Workshop on Sublinear Algorithms. [5/2014]
21. Lower bounds for approximate near neighbor search with Bregman divergences. Workshop on Hashing, Copenhagen [7/2014]
22. Metaclustering. Haverford College. [4/2014]
23. The Shape of Information. Haverford College. [4/2014]
24. Power to the points: Validating data membership in clusterings. Workshop on Succinct Data Representations and Applications, Simons Institute of Theoretical Computer science. [9/2013]
25. Reverse line stabbing in galleries. Dagstuhl Seminar on Computational Geometry, Dagstuhl, Germany. [3/2013]
26. A Geometric Interpretation of Multiplicative-Weight-Updates for (Multiple) Kernel Learning. Information Theory And Applications Workshop, San Diego. [2/2013]
27. Summer School on Algorithms for Modern Parallel and Distributed Models. Aarhus University [8/2012]
28. Summer School on Massive Data Mining. IT University, Copenhagen. [8/2012]
29. Workshop on Streaming Algorithms. Dortmund, Germany. [7/2012]
30. Protocols for Distributed Learning. From Data to Knowledge: Machine Learning with real-time and streaming applications, Berkeley, CA [5/2012]
31. Protocols for Distributed Learning. NII Shonan Meeting on Large-scale Distributed Computation, Japan [1/2012]
32. Computational Geometry and Learning Summer School, Paris, France. [6/2011]
33. Dimensionality Reduction for Distributions: The Good and the Bad. Yahoo! Research. [5/2011]
34. Workshop on Computational Geometry, Dagstuhl, Germany. [3/2011]
35. Dimensionality Reduction for Distributions: The Good and the Bad. College of Engineering, Montana State University. [2/2011]
36. Dimensionality Reduction for Distributions: The Good and the Bad. Information Theory And Applications Workshop, San Diego. [2/2011]
37. The Geometry of Clusterings, Hard and Soft. SIAM Data Mining Workshop on Clustering: Theory and Applications [5/2010]
38. NSF Workshop on Electronic Design Automation: Past, Present and Future. [7/2009]
39. Non-standard Geometries and Data Analysis. Emerging Trends in Visual Computing (ETVC'08), Paris, France. [11/2008]
40. Histograms, Information Distances And Nonparametric Inference. MSRI Workshop on Mathematics of Visual Analysis [10/2006]
41. Algorithms For Information Distances. Workshop on Sublinear Algorithms, Dagstuhl. [7/2005]

Colloquia

1. Algorithmic Fairness. ML in Paris (Meetup) [2/2016]
2. A Geometric Algorithm for Scalable Multiple Kernel Learning. Google, Inc. [4/2014]
3. Metaclustering. Amazon, Inc. [4/2013]
4. Approximate Bregman Near Neighbors. Max Planck Institute, Saarbrücken, Germany. [3/2013]
5. Approximate Bregman Near Neighbors. University of British Columbia, Vancouver [12/2011]
6. Shapely Measures, Measures on Shapes, ... and one distance to rule them all. University of Illinois, Urbana-Champaign. [9/2010]
7. A Unified Algorithmic Framework for Multidimensional Scaling. The Ohio State University

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[4/2010]

8. Non-standard Geometries and Data Analysis. Texas Tech University [1/2010]
9. Robust Shape Matching on Manifolds. Duke University [1/2009]
10. Information-Theoretic Approaches For Taming Large Data. Harvey Mudd College [3/2008]
11. Information-Theoretic Approaches For Taming Large Data. Biomedical Informatics Department, U. Utah [2/2008]
12. Information-Theoretic Approaches For Taming Large Data. Google Seattle [12/2007]
13. Algorithms Research at the University of Utah. Brigham Young University [10/2007]
14. Histograms, Information Distances And Nonparametric Inference. Indian Institute of Science, Bangalore [6/2007]
15. Rapid Identification of Column Heterogeneity. Yahoo! Research [10/2006]
16. Data Visualization and Mining on the GPU. IBM Research, NY [5/2006].
17. Finding Bumps in Space and Time. Purdue University [4/2006]
18. Rapid Identification of Column Heterogeneity. Computer and Information Sciences Department, University of Pennsylvania [3/2006]
19. Hunting of the Bump: On Maximizing Statistical Discrepancy. Lucent Math Seminar [2/2006]
20. Hunting of the Bump: On Maximizing Statistical Discrepancy. AT&T Math Seminar [11/2005]
21. Data Visualization and Mining on the GPU. University of Toronto [9/2005].
22. Algorithms For Information Distances. EPFL, Lausanne [7/2005].
23. Streaming Algorithms in Graphics Hardware. Florida State University [3/2005]
24. Streaming Algorithms in Graphics Hardware. University of Michigan [10/2004]
25. Streaming Algorithms in Graphics Hardware. University of Chicago [11/2003]
26. Streaming Algorithms in Graphics Hardware. AT&T Database Seminar [4/2003]
27. Rectangular Layouts and Contact Graphs. Department of Computer Science and Information Sciences, University of Pennsylvania. [3/2003]
28. Streaming Algorithms in Graphics Hardware. Lucent Bell Labs [3/2003]
29. Rectangular Layouts and Contact Graphs. Lucent/AT&T Labs Math Seminar, Florham Park, NJ. [4/2002]
30. Digital Geometry Processing in Hardware. Department of Computer Science, Duke University [3/2002].
31. Digital Geometry Processing in Hardware. Department of Computer and Information Science, University of Pennsylvania. [2/2002].
32. Digital Geometry Processing in Hardware. AT&T Labs, Menlo Park [1/2002].
33. Digital Geometry Processing in Hardware. Stanford Geometry Seminar [1/2002]
34. Geometric Algorithms in Rational Drug Design. Southern California Algorithms Seminar (USC) (4/00)
35. On the decidability of accessibility. Lucent/AT&T Labs Math Seminar, Florham Park, NJ. [4/2000]
36. On External Memory Graph Traversal. Department of Computer Science, SUNY Stony Brook [2/2000].
37. Geometric Algorithms in Rational Drug Design. Xerox PARC (4/99)
38. Geometric Algorithms in Rational Drug Design. AT&T Shannon Laboratories (3/99)
39. Geometric Algorithms in Rational Drug Design. University of California, Irvine (2/99)
40. Geometric Algorithms in Rational Drug Design. Medical Informatics Department, Stanford University (5/98).
41. Geometric Algorithms in Rational Drug Design. AT&T Laboratories, New Jersey (2/98).
42. Geometric Algorithms in Rational Drug Design. Indian Institute of Technology, Kanpur, India (9/97).

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Conference/Workshop Presentations

1. Decision Making with Limited Feedback: Error bounds for Recidivism Prediction and Predictive Policing (Poster). 4th workshop on Fairness, Accountability and Transparency in Machine Learning (FATML), [8/2017]
2. Certifying and Removing Disparate Impact. ACM SIGKDD Symposium on Knowledge Discovery and Data Mining, Sydney, Australia. [8/2015]
3. Hulls and Centerpoints in Positive Definite Space. SIAM Minisymposium on Computational Geometry, Joint Mathematics Meetings, Boston. [1/2012]
4. Robust Shape Matching on Manifolds. Fall Workshop on Computational Geometry [10/2008]
5. Hunting of the Bump: On Maximizing Statistical Discrepancy. 3rd International Workshop on Applied Probability, Storrs, CT [5/2006]
6. Compressing Large Boolean Matrices Using Reordering Techniques. 30th VLDB 2004 [8/2004].
7. Streaming Algorithms in Graphics Hardware. SIGMOD-DIMACS Workshop on Management and Processing of Data Streams [6/2003]
8. Streaming Geometric Optimization Using Graphics Hardware. 11th European Symposium on Algorithms [9/2003]
9. Visualizing Data Depth with Graphics Hardware. DIMACS Workshop on Data Depth [5/2003]
10. Streaming Geometric Optimization Using Graphics Hardware. DIMACS Workshop on Geometric Optimization [5/2003]
11. Streaming Algorithms in Graphics Hardware. DIMACS Streaming Working Group [3/2003]
12. Visualizing Data Depth with Graphics Hardware. 13th ACM-SIAM Symposium on Discrete Algorithms [1/2002]
13. Pattern Matching with Sets of Segments. 12th ACM-SIAM Symposium on Discrete Algorithms, Washington, DC. [1/2001]
14. Hardware-assisted View Dependent Map Simplification. 10th Annual Fall Workshop on Computational Geometry, Stony Brook [10/2000]
15. On External Memory Graph Traversal. 11th ACM-SIAM Symposium on Discrete Algorithms, San Francisco, CA. [1/2000].
16. Approximate Congruence in Nearly Linear Time. 11th ACM-SIAM Symposium on Discrete Algorithms, San Francisco, CA. [1/2000].
17. Approximate Congruence in Nearly Linear Time. 4th CGC Workshop on Computational Geometry, Baltimore, MD. [10/1999].
18. Geometric Pattern Matching: A Performance Study. 15th ACM Symposium on Computational Geometry, Miami, FL. [6/1999].
19. Geometric Point Set Matching: Combinatorial Bounds and Algorithms. 10th ACM-SIAM Symposium on Discrete Algorithms, Baltimore, MD. [1/1999].
20. Geometric Point Set Matching: Combinatorial Bounds and Algorithms. 2nd CGC Workshop on Computational Geometry, Durham, NC. [10/1997].
21. Storage management for evolving databases. 38th IEEE Symp. FOCS, Miami, FL. [10/1997]
22. RAPID: Randomized Pharmacophore Identification in Drug Design. 13th Symposium on Computational Geometry, Nice, France. [6/1997]
23. RAPID: Randomized Pharmacophore Identification in Drug Design. 1st CGC Workshop on Computational Geometry, Baltimore, MD. [10/1996]
24. Geometric Manipulation of Flexible Ligands. Workshop on Applied Computational Geometry. [5/1996]

Advising

Post-doctoral researchers

- Jeff Phillips (2009–2011)
- Andrew Selbst (2017-2019)

Ph.D students

- Avishek Saha (2012)
- Parasaran Raman (2013)
- Amirali Abdullah (2015)
- John Moeller (2016)
- Samira Daruki (2017)
- Dustin Webb (ABD)
- Chitradeep Dutta Roy
- Mohsen Abbasi
- Ashkan Bashardoust

M.S students

- Harsh Doshi (2007)
- Jon Gunnip (2008)
- Raj Varma Kommaraju (2010)
- Shobhit Gupta (2012)
- Swetha Machanavajhala (2013)
- Nitin Yadav (2015)
- Sarathkumar Swaminathan (2016)
- Sonam Choudhary (2017-)
- Kaveri Gupta (2017-)

Undergraduate Students

- Qiushi Wang (2011)
- Chad Brubaker (2012)
- Ariel Herbert-Voss (2016)
- Scott Neville (2017)
- Danielle Ensign (2017)
- Claire Zhang (Graduating 2018)

Internal Service

Committees

- Internal Review Committee for Department of Philosophy (2017)
- University of Utah Funding Incentive Seed Grant Committee (2017-2020)
- School of Computing Hiring Committee (2016-2017)
- Joint Math-SoC-BioEngineering Stats Cluster Search Committee (2014-15)
- School of Computing Executive Committee (2014-)
- Distinguished Lecture Series Chair (2014-)
- Data Management and Analysis Track Committee (2007-)
- Admissions Committee (2007-2015)
- Director of Graduate Studies (2009-2012)
- Curriculum Committee (2007-2013)
- Outreach Committee (Spring 2007, 2007-2008)
- College of Engineering Math Committee (2010-2013)

Outreach

- First Lego League team coach (2015-2016). Reached State finals and won Core Values award.
- Prepared two modules for presentation at various outreach events (sorting pancakes, computational origami) in collaboration with Erin Parker and Tina Ziemek (2009)
- Friday Afternoon In Engineering (Apr 2009)
- Presentation to West High Girls' Science Club (Mar 2007)
- Judge for SLVSEF (2007, 2008)

External Service

Editorial Boards

- Internet Mathematics (co-Editor of special issue on Evolving Networks)
- PeerJ Computer Science (Academic Editor)
- International Journal of Computational Geometry and Applications (Associate Editor)

Program Committees:

1. 17th Symposium on Experimental Algorithms, 2018.
2. 32nd AAAI Conference on Artificial Intelligence (AAAI), 2018 (Senior PC).
3. 26th ACM International Conference on Information and Knowledge Management (CIKM), 2017 (Senior PC).
4. Third annual International Conference on Computational Social Science (IC2S2), 2017.
5. 44th International Colloquium on Automata, Languages and Programming (ICALP), 2017.
6. IEEE International Conference on Data Mining (ICDM), 2016.
7. Neural Information Processing Systems (NIPS), 2016
8. 25th ACM International Conference on Information and Knowledge Management (CIKM), 2016 (Senior PC).
9. 33rd International Conference on Machine Learning (ICML), 2016.
10. 23rd ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2016.
11. 19th International Conference on Artificial Intelligence and Statistics (AISTATS), 2016.
12. Scandinavian Workshop on Algorithms And Theory (SWAT), 2016
13. SIAM Conference in Data Mining, 2016 (Senior PC)
14. IEEE International Conference on Data Mining (ICDM), 2015
15. Neural Information Processing Systems (NIPS), 2015

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16. 33rd Symposium on Theoretical Aspects of Computer Science (STACS), 2016.
17. 22nd ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2015.
18. 35th Annual Foundations of Software Technology and Theoretical Computer Science conference (FSTTCS), 2015.
19. 18th International Conference on Artificial Intelligence and Statistics (AISTATS), 2015.
20. Topics in Theoretical Computer Science (TTCS), 2015
21. 23rd ACM International Conference on Information and Knowledge Management (CIKM), 2014
22. Neural Information Processing Systems (NIPS), 2014
23. 34th Annual Foundations of Software Technology and Theoretical Computer Science conference (FSTTCS), 2014.
24. IEEE International Conference in Data Mining, 2014 (area chair)
25. 20th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2013
26. International Conference on Data Engineering (ICDE), 2014.
27. First International Workshop on Big Dynamic Distributed Data (BD3), 2013.
28. MASSIVE Workshop on Massive Data Algorithmics, 2013.
29. 1st IEEE International Conference on Big Data (IEEE BigData), 2013
30. 22nd ACM International Conference on Information and Knowledge Management (CIKM), 2013
31. 19th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2013
32. IEEE International Conference on Data Mining, 2013 (Contests co-chair)
33. 16th International Conference on Artificial Intelligence and Statistics (AISTATS), 2013.
34. SIAM Conference on Data Mining (SDM), 2013
35. 24th ACM-SIAM Symposium on Discrete Algorithms (SODA), 2013.
36. 3rd MultiClust Workshop: Discovering, Summarizing and Using Multiple Clusterings (co-located with Siam Conference on Data Mining), 2012. Organizing Committee.
37. 1st workshop on Computational Geometry: Applications, Practice, and Theory (CG:APT) (co-located with Symposium on Computational Geometry), 2012.
38. 18th ACM-SIGKDD conference on Knowledge Discovery and Data Mining (KDD) (Vice Chair), 2012
39. 15th International Conference on Artificial Intelligence (AISTATS), 2012.
40. 39th International Colloquium on Automata, Languages and Programming (ICALP) 2012
41. Posters Chair, 44th ACM Symposium on the Theory of Computing (STOC) 2012
42. 44th ACM Symposium on the Theory of Computing (STOC), 2012.
43. 1st International Conference on Pattern Recognition Applications and Methods (ICPRAM), 2012.
44. Workshop on Massive Data Algorithmics (MASSIVE), 2011.
45. IEEE International Conference on Data Mining (Vice Chair), 2011
46. 27th IEEE International Conference on Data Engineering (ICDE), 2011.
47. 21st ACM-SIAM Symposium on Discrete Algorithms (SODA), 2010.
48. Workshop on Massive Data Algorithmics, 2009.
49. The 11th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2009).
50. IEEE International Conference on Data Mining, 2009.
51. IEEE International Conference on Data Mining, 2008.
52. 23rd ACM Symposium on Computational Geometry, 2007.
53. 13th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2007.
54. 33rd International Conference on Very Large Databases (VLDB), 2007.
55. 9th Workshop on Algorithms, Engineering and Experiments (ALENEX), 2007.
56. 12th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2006.

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57. 14th European Symposium on Algorithms, Sep 2006.
58. 16th ACM-SIAM Symposium on Discrete Algorithms, Jan 2005.
59. 12th Annual Workshop on Computational Geometry, Nov 14-15, 2002 (co-sponsored by DIMACS).

Conference Organization

1. 1st Conference on Fairness, Accountability and Transparency, 2018. (Publications Chair)
2. Symposium on Algorithms Engineering and Experiments (ALENEX), 2018 (Program Chair)
3. 4th Workshop on Fairness, Accountability and Transparency, 2016. (General Chair)
4. 3rd Workshop on Fairness, Accountability and Transparency, 2016. (Program Chair)
5. SIAM Conference in Data Mining, 2015 (Program Chair)
6. 2nd Workshop on Fairness, Accountability and Transparency, 2015. (Program Chair)
7. SIAM Conference on Data Mining, 2014 (Panels Chair)
8. SIAM Conference on Data Mining, 2014 (Tutorials Chair)
9. 8F-CG: Geometry In the Field (co-located with the ACM Symposium on Computational Geometry) 2012 (Program Chair with Jeff Phillips)
10. 3rd MultiClust Workshop: Discovering, Summarizing and Using Multiple Clusterings (Organizing Committee).
11. SIAM minisymposium on Computational Geometry, Joint Mathematics Meetings, 2012 (General and Program Chair)
12. 15th Annual Workshop on Computational Geometry, 2005 (General Chair).
13. 26th ACM Symposium on Computational Geometry, 2010 (General Chair) (with Valerio Pascucci)

NSF Panels

- CISE Panels (2006,2008,2010,2012,2013,2014,2015,2016)