



## Moses Charikar

Donald E. Knuth Professor

Computer Science

 Curriculum Vitae available Online

### Bio

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#### BIO

Moses Charikar is the Donald E. Knuth professor of Computer Science at Stanford University. He obtained his PhD from Stanford in 2000, spent a year in the research group at Google, and was on the faculty at Princeton from 2001-2015.

His research interests include: efficient algorithmic techniques for processing, searching and indexing massive high-dimensional data sets; efficient algorithms for computational problems in high-dimensional statistics and optimization problems in machine learning; approximation algorithms for discrete optimization problems with provable guarantees; convex optimization approaches for non-convex combinatorial optimization problems; low-distortion embeddings of finite metric spaces.

His work won best paper awards at FOCS 2003, COLT 2017 and SODA 2024, the 10 year best paper award at VLDB 2017 and the 20 year test of time award at STOC 2022. He was jointly awarded the 2012 Paris Kanellakis Theory and Practice Award for his work on locality sensitive hashing, was named a Simons Investigator in theoretical computer science in 2014, and an ACM Fellow in 2021.

#### ACADEMIC APPOINTMENTS

- Professor, Computer Science
- Member, Bio-X
- Member, Wu Tsai Human Performance Alliance

#### HONORS AND AWARDS

- ACM Fellow, ACM (2021)
- Paris Kanellakis Theory and Practice Award, ACM (2012)
- Simons Investigator in Theoretical Computer Science, Simons Foundation (2014)
- Alfred P. Sloan Fellowship, Sloan Foundation (2003)
- Distinguished Alumnus Award, IIT Bombay (2016)
- 20 year test of time award, STOC (2022)
- 10 year best paper award, VLDB (2017)
- Best paper award, COLT (2017)
- Best paper award, FOCS (2003)

## BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Sloan Research Fellowships Selection Committee Member, Alfred P. Sloan Foundation (2022 - present)
- Godel Prize Committee, ACM SIGACT (2015 - 2018)
- Scientific Advisory Board Member, Simons Institute for the Theory of Computing (2015 - 2018)
- Director, Center for Computational Intractability (2012 - 2014)
- Member, SIGACT Committee for the Advancement of Theoretical Computer Science (2011 - 2017)
- Member, ACM-SIAM SODA steering committee (2010 - 2012)

## PROFESSIONAL EDUCATION

- B.Tech., Indian Institute of Technology, Bombay , Computer Science and Engineering (1995)
- Ph.D., Stanford University , Computer Science (2000)

## PATENTS

- Moses Charikar, Deepa Ramakrishna. "United States Patent 10,282,863 Lossless Compression of Fragmented Image Data", EMC Corporation, May 7, 2019
- Moses Charikar, Deepa Ramakrishna. "United States Patent 10,249,059 Lossless Compression of Fragmented Image Data", EMC Corporation, Apr 2, 2019
- Moses Charikar, Deepa Ramakrishna. "United States Patent 10,114,839 Format Identification for Fragmented Data", EMC Corporation, Oct 30, 2018
- Moses Charikar, Deepa Ramakrishna. "United States Patent 9,684,974 Lossless compression of fragmented image data", EMC Corporation, Jun 20, 2017
- Moses Charikar, Deepa Ramakrishna. "United States Patent 9,558,566 Lossless compression of fragmented image data", EMC Corporation, Jan 31, 2017
- Moses Charikar, Deepa Ramakrishna. "United States Patent 9,495,390 Format identification for fragmented image data", EMC Corporation, Nov 15, 2016
- Moses Charikar, Deepa Ramakrishna. "United States Patent 9,384,218 Format identification for fragmented image data", EMC Corporation, Jul 5, 2016
- Kai Li, Qin, Lv, Moses Charikar. "United States Patent 7966327B2 Similarity search system with compact data structures", The Trustees Of Princeton University, Jun 21, 2011
- Ran Canetti, Moses Charikar, Sridhar Rajagopalan, S. Ravikumar, Amit Sahai, Andrew Tomkins. "United States Patent US7222362B1 Non-transferable anonymous credentials", IBM, May 22, 2007
- Moses Charikar. "United States Patent US7158961 B1 Methods and apparatus for estimating similarity", Google, Inc, Dec 31, 2001

## LINKS

- Google Scholar page: <https://scholar.google.co.in/citations?user=fYO2d9IAAAAJ&hl=en>
- DBLP page: <https://dblp.uni-trier.de/pers/hd/c/Charikar:Moses>
- Semantic Scholar page: <https://www.semanticscholar.org/author/Moses-Charikar/1745732?sort=velocity>

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Efficient algorithmic techniques for processing, searching and indexing massive high-dimensional data sets; efficient algorithms for computational problems in high-dimensional statistics and optimization problems in machine learning; approximation algorithms for discrete optimization problems with provable guarantees; convex optimization approaches for non-convex combinatorial optimization problems; low-distortion embeddings of finite metric spaces.

## Teaching

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### COURSES

#### 2025-26

- Artificial Intelligence: Principles and Techniques: CS 221 (Spr)
- Design and Analysis of Algorithms: CS 161 (Win)
- Machine Learning: CS 229, STATS 229 (Aut)

#### 2024-25

- Artificial Intelligence: Principles and Techniques: CS 221 (Spr)
- Design and Analysis of Algorithms: CS 161 (Win)
- Machine Learning: CS 229, STATS 229 (Aut)

#### 2023-24

- Artificial Intelligence: Principles and Techniques: CS 221 (Spr)
- Design and Analysis of Algorithms: CS 161 (Win)
- Machine Learning: CS 229, STATS 229 (Aut)

#### 2022-23

- Artificial Intelligence: Principles and Techniques: CS 221 (Spr)
- Design and Analysis of Algorithms: CS 161 (Win)
- Machine Learning: CS 229, STATS 229 (Aut)

### STANFORD ADVISEES

#### Doctoral Dissertation Reader (AC)

Guy Blanc, Jiale Chen, Xiao Mao

#### Orals Chair

Rahul Raphael Kanekar

#### Orals Evaluator

Xiao Mao, Prasanna Ramakrishnan

#### Doctoral Dissertation Advisor (AC)

Prasanna Ramakrishnan

#### Doctoral Dissertation Co-Advisor (AC)

Ruiquan Gao, Alireza Haqi, Anna Thomas

#### Master's Program Advisor

Ayaan Malik, Anthony Maltsev, Ishani Mukherjee, Ava Parekh, Yangyi Shen, Maggie Sun, Abhishek Vangipuram, Avery Voss, Anthony Zhan

#### Doctoral (Program)

Chirag Pabbaraju, Aidan Perreault, Prasanna Ramakrishnan

## Publications

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### PUBLICATIONS

- **Improved Approximations for Ultrametric Violation Distance**  
Charikar, M., Gao, R.  
edited by Woodruff, D. P.  
SIAM.2024: 1704-1737
- **A Quasi-Monte Carlo Data Structure for Smooth Kernel Evaluations**  
Charikar, M., Kapralov, M., Waingarten, E.  
edited by Woodruff, D. P.  
SIAM.2024: 5118-5144
- **Distributed algorithms from arboreal ants for the shortest path problem.** *Proceedings of the National Academy of Sciences of the United States of America*  
Garg, S., Shiragur, K., Gordon, D. M., Charikar, M.  
2023; 120 (6): e2207959120
- **A Characterization of List Learnability**  
Charikar, M., Pabbaraju, C.  
edited by Servedio, R. A., Saha, B.  
ASSOC COMPUTING MACHINERY.2023: 1713-1726
- **Fast Algorithms for a New Relaxation of Optimal Transport**  
Charikar, M., Chen, B., Re, C., Waingarten, E.  
edited by Neu, G., Rosasco, L.  
JMLR-JOURNAL MACHINE LEARNING RESEARCH.2023
- **Single-Pass Streaming Algorithms for Correlation Clustering**  
Behnezhad, S., Charikar, M., Ma, W., Tan, L.  
edited by Bansal, N., Nagarajan  
SIAM.2023: 819-849
- **Simple, Scalable and Effective Clustering via One-Dimensional Projections**  
Charikar, M., Henzinger, M., Hu, L., Voetsch, M., Waingarten, E.  
edited by Oh, A., Neumann, T., Globerson, A., Saenko, K., Hardt, M., Levine, S.  
NEURAL INFORMATION PROCESSING SYSTEMS (NIPS).2023
- **p Local Density Estimation in High Dimensions** *MATHEMATICS OF OPERATIONS RESEARCH*  
Wu, X., Charikar, M., Natchu, V.  
2022
- **Multiway Online Correlated Selection**  
Blanc, G., Charikar, M., IEEE COMP SOC  
IEEE COMPUTER SOC.2022: 1277-1284
- **Metric Distortion Bounds for Randomized Social Choice**  
Charikar, M., Ramakrishnan, P.  
edited by Naor, J., Buchbinder, N.  
SIAM.2022: 2986-3004
- **Near-Optimal Explainable  $k$ -Means for All Dimensions**  
Charikar, M., Hu, L.  
edited by Naor, J., Buchbinder, N.  
SIAM.2022: 2580-2606
- **On the Efficient Implementation of High Accuracy Optimality of Profile Maximum Likelihood**  
Charikar, M., Jiang, Z., Shiragur, K., Sidford, A.

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edited by Koyejo, S., Mohamed, S., Agarwal, A., Belgrave, D., Cho, K., Oh, A.  
NEURAL INFORMATION PROCESSING SYSTEMS (NIPS).2022

- **Almost 3-Approximate Correlation Clustering in Constant Rounds**  
Behnezhad, S., Charikar, M., Ma, W., Tan, L., IEEE Comp Soc  
IEEE COMPUTER SOC.2022: 720-731
- **Approximation Algorithms for Orthogonal Non-negative Matrix Factorization**  
Charikar, M., Hu, L.  
edited by Banerjee, A., Fukumizu, K.  
MICROTOME PUBLISHING.2021
- **The Bethe and Sinkhorn Permanents of Low Rank Matrices and Implications for Profile Maximum Likelihood**  
Anari, N., Charikar, M., Shiragur, K., Sidford, A.  
edited by Belkin, M., Kpotufe, S.  
JMLR-JOURNAL MACHINE LEARNING RESEARCH.2021: 93-158
- **Improved Algorithms for Edge Colouring in the W-Streaming Model**  
Charikar, M., Liu, P.  
edited by King, Le, H. V.  
SIAM.2021: 181-183
- **Improved Algorithms for Edge Colouring in the W-Streaming Model**  
Charikar, M., Liu, P.  
edited by Farach-Colton, M., Storandt, S.  
SIAM.2021
- **Brief Announcement: A Randomness-efficient Massively Parallel Algorithm for Connectivity**  
Charikar, M., Ma, W., Tan, L., ACM  
ASSOC COMPUTING MACHINERY.2021: 431-433
- **CoopStore: Optimizing Precomputed Summaries for Aggregation** *PROCEEDINGS OF THE VLDB ENDOWMENT*  
Gan, E., Bailis, P., Charikar, M.  
2020; 13 (11): 2174–87
- **Retrieving Top Weighted Triangles in Graphs**  
Kumar, R., Liu, P., Charikar, M., Benson, A. R., ACM  
ASSOC COMPUTING MACHINERY.2020: 295–303
- **Adaptive Discrete Phase Retrieval**  
Charikar, M., Wu, X., Ye, Y.  
edited by Farach-Colton, M., Gortz, I. L.  
SIAM.2020: 47-56
- **Instance Based Approximations to Profile Maximum Likelihood**  
Anari, N., Charikar, M., Shiragur, K., Sidford, A.  
edited by Larochelle, H., Ranzato, M., Hadsell, R., Balcan, M. F., Lin, H.  
NEURAL INFORMATION PROCESSING SYSTEMS (NIPS).2020
- **Institutions Share Successes, Failures, and Advice in Moving the Diversity Needle**  
Garcia, D., Charikar, M., Hearn, E., Lazowska, E., Reynolds, J., ASSOC COMP MACHINERY  
ASSOC COMPUTING MACHINERY.2020: 331-332
- **Unconditional Lower Bounds for Adaptive Massively Parallel Computation**  
Charikar, M., Ma, W., Tan, L., ACM  
ASSOC COMPUTING MACHINERY.2020: 141-151
- **Kernel Density Estimation through Density Constrained Near Neighbor Search**  
Charikar, M., Kapralov, M., Nouri, N., Siminelakis, P., IEEE

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IEEE.2020: 172-183

- **A General Framework for Symmetric Property Estimation**  
Charikar, M., Shiragur, K., Sidford, A.  
edited by Wallach, H., Larochelle, H., Beygelzimer, A., d'Alche-Buc, F., Fox, E., Garnett, R.  
NEURAL INFORMATION PROCESSING SYSTEMS (NIPS).2019
- **Hierarchical Clustering better than Average-Linkage**  
Charikar, M., Chatziafratis, V., Niazadeh, R.  
edited by Chan, T. M.  
SIAM.2019: 2291-2304
- **Multi-commodity Flow with In-Network Processing**  
Charikar, M., Naamad, Y., Rexford, J., Zou, X.  
edited by Disser, Y., Verykios, V. S.  
SPRINGER INTERNATIONAL PUBLISHING AG.2019: 73-101
- **Rehashing Kernel Evaluation in High Dimensions**  
Siminelakis, P., Rong, K., Bailis, P., Charikar, M., Levis, P.  
edited by Chaudhuri, K., Salakhutdinov, R.  
JMLR-JOURNAL MACHINE LEARNING RESEARCH.2019
- **Sampling Methods for Counting Temporal Motifs**  
Liu, P., Benson, A. R., Charikar, M., ACM  
ASSOC COMPUTING MACHINERY.2019: 294-302
- **Efficient Profile Maximum Likelihood for Universal Symmetric Property Estimation**  
Charikar, M., Shiragur, K., Sidford, A.  
edited by Charikar, M., Cohen, E.  
ASSOC COMPUTING MACHINERY.2019: 780-91
- **Multi-Resolution Hashing for Fast Pairwise Summations**  
Charikar, M., Siminelakis, P., IEEE  
IEEE COMPUTER SOC.2019: 769-92
- **Hierarchical Clustering for Euclidean Data**  
Charikar, M., Chatziafratis, V., Niazadeh, R., Yaroslavtsev, G.  
edited by Chaudhuri, K., Sugiyama, M.  
MICROTOME PUBLISHING.2019
- **Recovery Guarantees For Quadratic Tensors With Sparse Observations**  
Zhang, H., Sharan, V., Charikar, M., Liang, Y.  
edited by Chaudhuri, K., Sugiyama, M.  
MICROTOME PUBLISHING.2019
- **Efficient Density Evaluation for Smooth Kernels**  
Backurs, A., Charikar, M., Indyk, P., Siminelakis, P.  
edited by Thorup, M.  
IEEE COMPUTER SOC.2018: 615-26
- **Hierarchical Clustering with Structural Constraints**  
Chatziafratis, V., Niazadeh, R., Charikar, M.  
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JMLR-JOURNAL MACHINE LEARNING RESEARCH.2018
- **Local Density Estimation in High Dimensions**  
Wu, X., Charikar, M., Natchu, V.  
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JMLR-JOURNAL MACHINE LEARNING RESEARCH.2018

- **Hashing-Based-Estimators for Kernel Density in High Dimensions**  
Charikar, M., Siminelakis, P., IEEE  
IEEE.2017: 1032–43
- **Learning from Untrusted Data**  
Charikar, M., Steinhardt, J., Valiant, G.  
edited by Hatami, H., McKenzie, P., King  
ASSOC COMPUTING MACHINERY.2017: 47–60
- **Approximate Hierarchical Clustering via Sparsest Cut and Spreading Metrics**  
Charikar, M., Chatziafratis, V., ACM  
ASSOC COMPUTING MACHINERY.2017: 841–54
- **Local Guarantees in Graph Cuts and Clustering**  
Charikar, M., Gupta, N., Schwartz, R.  
edited by Eisenbrand, F., Koenemann, J.  
SPRINGER INTERNATIONAL PUBLISHING AG.2017: 136–47
- **Avoiding Imposters and Delinquents: Adversarial Crowdsourcing and Peer Prediction**  
Steinhardt, J., Valiant, G., Charikar, M.  
edited by Lee, D. D., Sugiyama, M., Luxburg, U. V., Guyon, Garnett, R.  
NEURAL INFORMATION PROCESSING SYSTEMS (NIPS).2016
- **Top-k Frequent Item Maintenance over Streams** *DATA STREAM MANAGEMENT: PROCESSING HIGH-SPEED DATA STREAMS*  
Charikar, M.  
edited by Garofalakis, M., Gehrke, J., Rastogi, R.  
2016: 103–19
- **Spectral Embedding of k-Cliques, Graph Partitioning and k-Means**  
Awasthi, P., Charikar, M., Krishnaswamy, R., Sinop, A., ACM  
ASSOC COMPUTING MACHINERY.2016: 301–10
- **Targeted exploration and analysis of large cross-platform human transcriptomic compendia** *NATURE METHODS*  
Zhu, Q., Wong, A. K., Krishnan, A., Aure, M. R., Tadych, A., Zhang, R., Corney, D. C., Greene, C. S., Bongo, L. A., Kristensen, V. N., Charikar, M., Li, K., Troyanskaya, et al  
2015; 12 (3): 211-?
- **Relax, No Need to Round: Integrality of Clustering Formulations**  
Awasthi, P., Bandeira, A. S., Charikar, M., Krishnaswamy, R., Villar, S., Ward, R., ACM  
ASSOC COMPUTING MACHINERY.2015: 191–200
- **Smoothed Analysis of Tensor Decompositions**  
Bhaskara, A., Charikar, M., Moitra, A., Vijayaraghavan, A., Assoc Comp Machinery  
ASSOC COMPUTING MACHINERY.2014: 594–603
- **Online Bipartite Matching with Decomposable Weights**  
Charikar, M., Henzinger, M., Nguyen, H. L.  
edited by Schulz, A. S., Wagner, D.  
SPRINGER-VERLAG BERLIN.2014: 260–71
- **A Dependent LP-Rounding Approach for the k-Median Problem**  
Charikar, M., Li, S.  
edited by Czumaj, A., Mehlhorn, K., Pitts, A., Wattenhofer, R.  
SPRINGER-VERLAG BERLIN.2012: 194–205
- **On Quadratic Programming with a Ratio Objective**  
Bhaskara, A., Charikar, M., Manokaran, R., Vijayaraghavan, A.  
edited by Czumaj, A., Mehlhorn, K., Pitts, A., Wattenhofer, R.  
SPRINGER-VERLAG BERLIN.2012: 109–20

- **Improved Approximation Algorithms for Label Cover Problems** *ALGORITHMICA*  
Charikar, M., Hajiaghayi, M., Karloff, H.  
2011; 61 (1): 190-206
- **BEATING THE RANDOM ORDERING IS HARD: EVERY ORDERING CSP IS APPROXIMATION RESISTANT** *SIAM JOURNAL ON COMPUTING*  
Guruswami, V., Hastad, J., Manokaran, R., Raghavendra, P., Charikar, M.  
2011; 40 (3): 878-914
- **Tight Hardness Results for Minimizing Discrepancy**  
Charikar, M., Newman, A., Nikolov, A., SIAM, ACM  
SIAM.2011: 1607–14
- **Near Linear Lower Bound for Dimension Reduction in  $l(1)$**   
Andoni, A., Charikar, M. S., Neiman, O., Nguyen, H. L.  
edited by Ostrovsky, R.  
IEEE COMPUTER SOC.2011: 315–23
- **FITTING TREE METRICS: HIERARCHICAL CLUSTERING AND PHYLOGENY** *SIAM JOURNAL ON COMPUTING*  
Ailon, N., Charikar, M.  
2011; 40 (5): 1275-1291
- **$l(2)(2)$  Spreading Metrics for Vertex Ordering Problems** *ALGORITHMICA*  
Charikar, M., Hajiaghayi, M. T., Karloff, H., Rao, S.  
2010; 56 (4): 577-604
- **LOCAL GLOBAL TRADEOFFS IN METRIC EMBEDDINGS** *SIAM JOURNAL ON COMPUTING*  
Charikar, M., Makarychev, K., Makarychev, Y.  
2010; 39 (6): 2487-2512
- **Vertex Sparsifiers and Abstract Rounding Algorithms**  
Charikar, M., Leighton, T., Li, S., Moitra, A., IEEE Computer Society  
IEEE COMPUTER SOC.2010: 265–74
- **Detecting High Log-Densities - an  $O(n^{1/4})$  Approximation for Densest  $k$ -Subgraph**  
Bhaskara, A., Charikar, M., Chlamtac, E., Feige, U., Vijayaraghavan, A., ACM  
ASSOC COMPUTING MACHINERY.2010: 201–10
- **Near-Optimal Algorithms for Maximum Constraint Satisfaction Problems** *ACM TRANSACTIONS ON ALGORITHMS*  
Charikar, M., Makarychev, K., Makarychev, Y.  
2009; 5 (3)
- **Every Permutation CSP of arity 3 is Approximation Resistant** *PROCEEDINGS OF THE 24TH ANNUAL IEEE CONFERENCE ON COMPUTATIONAL COMPLEXITY*  
Charikar, M., Guruswami, V., Manokaran, R.  
2009: 62-73
- **Improved Approximation Algorithms for Label Cover Problems**  
Charikar, M., Hajiaghayi, M., Karloff, H.  
edited by Fiat, A., Sanders, P.  
SPRINGER-VERLAG BERLIN.2009: 23-+
- **MaxMin Allocation via Degree Lower-bounded Arborescences** *STOC'09: PROCEEDINGS OF THE 2009 ACM SYMPOSIUM ON THEORY OF COMPUTING*  
Bateni, M., Charikar, M., Guruswami, V.  
2009: 543-552
- **Integrality Gaps for Sherali-Adams Relaxations** *STOC'09: PROCEEDINGS OF THE 2009 ACM SYMPOSIUM ON THEORY OF COMPUTING*  
Charikar, M., Makarychev, K., Makarychev, Y.  
2009: 283-292

- **Aggregating Inconsistent Information: Ranking and Clustering** *JOURNAL OF THE ACM*  
Ailon, N., Charikar, M., Newman, A.  
2008; 55 (5)
- **Online Multicast with Egalitarian Cost Sharing** *SPAA'08: PROCEEDINGS OF THE TWENTIETH ANNUAL SYMPOSIUM ON PARALLELISM IN ALGORITHMS AND ARCHITECTURES*  
Charikar, M., Karloff, H., Mathieu, C., Naor, J. (., Saks, M.  
2008: 70-76
- **Sizing Sketches: A Rank-Based Analysis for Similarity Search** *SIGMETRICS'07: PROCEEDINGS OF THE 2007 INTERNATIONAL CONFERENCE ON MEASUREMENT & MODELING OF COMPUTER SYSTEMS*  
Wang, Z., Dong, W., Josephson, W., Lv, Q., Charikar, M., Li, K.  
2007; 35 (1): 157-168
- **A Divide and Conquer Algorithm for d-Dimensional Arrangement**  
Charikar, M., Makarychev, K., Makarychev, Y., SIAM/ACM  
SIAM.2007: 541-46
- **Near-Optimal Algorithms for Maximum Constraint Satisfaction Problems**  
Charikar, M., Makarychev, K., Makarychev, Y., SIAM/ACM  
SIAM.2007: 62-68
- **On finding frequent elements in a data stream** *APPROXIMATION, RANDOMIZATION, AND COMBINATORIAL OPTIMIZATION: ALGORITHMS AND TECHNIQUES*  
Charikar, M., Chen, K., Farach-Colton, M.  
2007; 4627: 584-?
- **On the advantage over random for maximum acyclic subgraph** *48TH ANNUAL IEEE SYMPOSIUM ON FOUNDATIONS OF COMPUTER SCIENCE, PROCEEDINGS*  
Charikar, M., Makarychev, K., Makarychev, Y.  
2007: 625-633
- **Local global tradeoffs in metric embeddings** *48TH ANNUAL IEEE SYMPOSIUM ON FOUNDATIONS OF COMPUTER SCIENCE, PROCEEDINGS*  
Charikar, M., Makarychev, K., Makarychev, Y.  
2007: 713-723
- **Improved Approximation for Directed Cut Problems** *STOC 07: PROCEEDINGS OF THE 39TH ANNUAL ACM SYMPOSIUM ON THEORY OF COMPUTING*  
Agarwal, A., Alon, N., Charikar, M.  
2007: 671-680
- **Special issue on FOCS 2001 - Guest editor's foreword** *JOURNAL OF COMPUTER AND SYSTEM SCIENCES*  
Charikar, M.  
2006; 72 (5): 785
- **On the integrality ratio for the asymmetric traveling salesman problem** *MATHEMATICS OF OPERATIONS RESEARCH*  
Charikar, M., Goemans, M. X., Karloff, H.  
2006; 31 (2): 245-252
- **A Robust Maximum Completion Time Measure for Scheduling**  
Charikar, M., Khuller, S., SIAM/ACM  
SIAM.2006: 324-+
- **$l(2)(2)$  Spreading Metrics For Vertex Ordering Problems**  
Charikar, M., Hajiaghayi, M., Karloff, H., Rao, S., SIAM/ACM  
SIAM.2006: 1018-+
- **Directed Metrics and Directed Graph Partitioning Problems**  
Charikar, M., Makarychev, K., Makarychev, Y., SIAM/ACM

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SIAM.2006: 51–60

- **Clustering with qualitative information** *JOURNAL OF COMPUTER AND SYSTEM SCIENCES*  
Charikar, M., Guruswami, V., Wirth, A.  
2005; 71 (3): 360-383
- **On the impossibility of dimension reduction in  $l(1)$**  *JOURNAL OF THE ACM*  
Brinkman, B., Charikar, M.  
2005; 52 (5): 766-788
- **The smallest grammar problem** *13th Annual ACM/SIAM Symposium on Discrete Algorithms*  
Charikar, M., Lehman, E., Liu, D., Panigrahy, R., Prabhakaran, M., Sahai, A., Shelat, A.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2005: 2554–76
- **Improved combinatorial algorithms for facility location problems** *SIAM JOURNAL ON COMPUTING*  
Charikar, M., Guha, S.  
2005; 34 (4): 803-824
- **A Tight Threshold for Metric Ramsey Phenomena**  
Charikar, M., Karagiozova, A., SIAM/ACM  
SIAM.2005: 129–36
- **Fitting tree metrics: Hierarchical clustering and phylogeny** *46TH ANNUAL IEEE SYMPOSIUM ON FOUNDATIONS OF COMPUTER SCIENCE, PROCEEDINGS*  
Ailon, N., Charikar, M.  
2005: 73-82
- **Sampling bounds for stochastic optimization** *APPROXIMATION, RANDOMIZATION AND COMBINATORIAL OPTIMIZATION: ALGORITHMS AND TECHNIQUES*  
Charikar, M., Chekuri, C., Pal, M.  
2005; 3624: 257-269
- **Resource optimization in QoS multicast routing of real-time multimedia** *IEEE-ACM TRANSACTIONS ON NETWORKING*  
Charikar, M., Naor, J., Schieber, B.  
2004; 12 (2): 340-348
- **Clustering to minimize the sum of cluster diameters** *JOURNAL OF COMPUTER AND SYSTEM SCIENCES*  
Charikar, M., Panigrahy, R.  
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- **Finding frequent items in data streams** *THEORETICAL COMPUTER SCIENCE*  
Charikar, M., Chen, K., Farach-Colton, M.  
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- **Incremental clustering and dynamic information retrieval** *SIAM JOURNAL ON COMPUTING*  
Charikar, M., Chekuri, C., Feder, T., Motwani, R.  
2004; 33 (6): 1417-1440
- **The advantage of network coding for improving network throughput** *2004 IEEE INFORMATION THEORY WORKSHOP, PROCEEDINGS*  
Agarwal, A., Charikar, M.  
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- **Minimizing wirelength in zero and bounded skew clock trees** *SIAM JOURNAL ON DISCRETE MATHEMATICS*  
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- **On the integrality ratio for asymmetric TSP** *45TH ANNUAL IEEE SYMPOSIUM ON FOUNDATIONS OF COMPUTER SCIENCE, PROCEEDINGS*  
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