David M. Mount
Curriculum Vitae
March 18, 2012

I certify that the following curriculum vitae is a current and accurate statement of my professional record.

Signature: Date: March 18, 2012

Address:
Department of Computer Science
University of Maryland
College Park, Maryland 20742
Office phone: (301) 405–2704
URL: `http://www.cs.umd.edu/~mount`

Home:
3500 Sheffield Manor Terr # 301
Silver Spring, Maryland 20904
Home phone: (240) 893-2307

Email: `mount@cs.umd.edu`

Affiliation and Rank

Department of Computer Science (75%)
Institute for Advanced Computer Studies (UMIACS) (25%)

Rank: Professor (since August, 1999)

Research Interests

The design, analysis, and implementation of data structures and algorithms for geometric problems, particularly problems with applications in areas such as image processing, pattern recognition, information retrieval, and computer graphics.

Education

B.S.	Purdue University	1977	Computer Science (with highest distinction)
Ph.D.	Purdue University	1983	Computer Science (Advisor: Christoph Hoffmann)

Work Experience

1999– Professor, Computer Science Department, University of Maryland.

1990–99 Associate Professor, Computer Science Department, University of Maryland.

1984–90 Assistant Professor, Computer Science Department, University of Maryland.

1983–84 Visiting Assistant Professor, Computer Science Department, Purdue University.

Visiting Appointments

Feb–Jun 2009 Visiting Professor, Department of Computer Science and Engineering, Hong Kong University of Science and Technology. (While on sabbatical leave.)

Jul–Dec 2001 Visiting Professor, Department of Computer Science, Hong Kong University of Science and Technology. (While on sabbatical leave.)

Jun–Dec 1994 Visiting scientist, Max Planck Institute für Informatik, Saarbrücken, Germany. (While on sabbatical leave.)

Books

[1] M. T. Goodrich, R. Tamassia, and D. M. Mount. *Data Structures and Algorithms in C++*. John Wiley & Sons, New York, 2nd edition, 2011.

[2] M. T. Goodrich, R. Tamassia, and D. M. Mount. *Data Structures and Algorithms in C++*. John Wiley & Sons, New York, 2004.

Papers in Refereed Journals

[3] S. Arya, D. M. Mount, and J. Xia. Tight lower bounds for halfspace range searching. *Discrete Comput. Geom.* To appear.

[4] S. A. Friedler and D. M. Mount. Approximation algorithm for the kinetic robust k-center problem. *Comput. Geom. Theory Appl.*, 43:572–586, 2010. (doi: 10.1016/j.comgeo.2010.01.001).

[5] G. D. da Fonseca and D. M. Mount. Approximate range searching: The absolute model. *Comput. Geom. Theory Appl.*, 43:434–444, 2010. (doi: 10.1016/j.comgeo.2008.09.009).

[6] S. Arya, T. Malamatos, and D. M. Mount. Space-time tradeoffs for approximate nearest neighbor searching. *J. Assoc. Comput. Mach.*, 57:1–54, 2009. (doi: 10.1145/1613676.1613677).

[7] S. Arya, T. Malamatos, and D. M. Mount. The effect of corners on the complexity of approximate range searching. *Discrete Comput. Geom.*, 41:398–443, 2009. (doi: 10.1007/s00454-009-9140-z).

[8] F. B. Atalay and D. M. Mount. Pointerless implementation of hierarchical simplicial meshes and efficient neighbor finding in arbitrary dimensions. *Internat. J. Comput. Geom. Appl.*, 17:595–631, 2007. (doi: 10.1142/S0218195907002495).

[9] M. Cho and D. M. Mount. Improved approximation bounds for planar point pattern matching. *Algorithmica*, 50:175–207, 2007. (doi: 10.1007/s00453-007-9059-9).

[10] S. Arya, T. Malamatos, and D. M. Mount. A simple entropy-based algorithm for planar point location. *ACM Trans. Algorithms*, 3, 2007. (article: 17, doi: 10.1145/1240233.1240240).

[11] S. Arya, T. Malamatos, D. M. Mount, and K.-C. Wong. Optimal expected-case planar point location. *SIAM J. Comput.*, 37:584–610, 2007. (doi: 10.1137/S0097539704446724).

[12] N. Memarsadeghi, D. M. Mount, N. S. Netanyahu, and J. Le Moigne. A fast implementation of the ISODATA algorithm. *Internat. J. Comput. Geom. Appl.*, 17:71–103, 2007. (doi: 10.1142/S0218195907002252).

[13] D. M. Mount, N. S. Netanyahu, K. R. Romanik, R. Silverman, and A. Y. Yu. A practical approximation algorithm for the LMS line estimator. *Computational Statistics & Data Analysis*, 51:2461–2486, 2007. (doi: 10.1016/j.csda.2006.08.033).

[14] J. Erickson, S. Har-Peled, and D. M. Mount. On the least median square problem. *Discrete Comput. Geom.*, 36:593–607, 2006. (doi: 10.1007/s00454-006-1267-6).

[15] O. Daescu, J. Luo, and D. M. Mount. Proximity problems on line segments spanned by points. *Comput. Geom. Theory Appl.*, 33:115–129, 2006. (doi: 10.1016/j.comgeo.2005.08.007).

[16] T. Kanungo, D. M. Mount, N. Netanyahu, C. D. Piatko, R. Silverman, and A. Y. Wu. A local search approximation algorithm for k-means clustering. *Comput. Geom. Theory Appl.*, 28:89–112, 2004. (doi: 10.1016/j.comgeo.2004.03.003).

[17] P. K. Agarwal, L. J. Guibas, (18 others, and me). Algorithmic issues in modeling motion. *ACM Comput. Surv.*, 34:550–572, 2002. (doi: 10.1145/592642.592647).

[18] T. Kanungo, D. M. Mount, N. S. Netanyahu, C. Piatko, R. Silverman, and A. Y. Wu. An efficient k-means clustering algorithm: Analysis and implementation. *IEEE Trans. Pattern Anal. Mach. Intell.*, 24:881–892, 2002. (doi: 10.1109/TPAMI.2002.1017616).

[19] T. Kanungo, D. M. Mount, N. S. Netanyahu, C. Piatko, R. Silverman, and A. Y. Wu. Approximating large convolutions in digital images. *IEEE Trans. Image Proc.*, 10:1826–1835, 2001.

[20] D. M. Mount and N. S. Netanyahu. Efficient randomized algorithms for robust estimation of circular arcs and aligned ellipses. *Comput. Geom. Theory Appl.*, 19:1–34, 2001.

[21] M. Murphy, D. M. Mount, and C. W. Gable. A point-placement strategy for conforming delaunay tetrahedralization. *Internat. J. Comput. Geom. Appl.*, pages 669–682, 2001.

[22] S. Arya and D. M. Mount. Approximate range searching. *Comput. Geom. Theory Appl.*, 17:135–163, 2001.

[23] S. Arya, S.-W. Cheng, and D. M. Mount. Approximation algorithm for multiple-tool milling. *Internat. J. Comput. Geom. Appl.*, 11, 2000. 339–372.

[24] D. M. Mount, N. S. Netanyahu, C. Piatko, R. Silverman, and A. Y. Wu. Quantile approximation for robust statistical estimation and k-enclosing problems. *Internat. J. Comput. Geom. Appl.*, 10:593–608, 2000.

[25] D. M. Mount, N. S. Netanyahu, R. Silverman, and A. Wu. Chromatic nearest neighbour searching: A query sensitive approach. *Comput. Geom. Theory Appl.*, 17:97–119, 2000.

[26] M. Keil, D. M. Mount, and S. K. Wismath. Visibility stabs and depth-first spiralling on line segments in output sensitive time. *Internat. J. Comput. Geom. Appl.*, 10:535–552, 2000.

[27] S. Arya, D. M. Mount, and M. Smid. Dynamic algorithms for geometric spanners of small diameter: Randomized solutions. *Comput. Geom. Theory Appl.*, 13:91–107, 1999.

[28] D. M. Mount, N. S. Netanyahu, and J. Le Moigne. Efficient algorithms for robust point pattern matching. *Pattern Recogn.*, 32:17–38, 1999.

[29] S. Arya, D. M. Mount, N. S. Netanyahu, R. Silverman, and A. Wu. An optimal algorithm for approximate nearest neighbor searching. *J. Assoc. Comput. Mach.*, 45:891–923, 1998. (doi: 10.1145/293347.293348).

[30] J. Matoušek, D. M. Mount, and N. S. Netanyahu. Efficient randomized algorithms for the repeated median line estimator. *Algorithmica*, 16:498–516, 1998.

[31] J. S. B. Mitchell, D. M. Mount, and S. Suri. Query-sensitive ray shooting. *Internat. J. Comput. Geom. Appl.*, 7:317–347, 1997.

[32] Y. Teng, D. Mount, E. Puppo, and L. Davis. Parallelizing an algorithm for visibility on polyhedral terrain. *Internat. J. Comput. Geom. Appl.*, 7:75–84, 1997.

[33] Esther M. Arkin, P. Belleville, Joseph S. B. Mitchell, D. M. Mount, K. Romanik, S. Salzberg, and D. Souvaine. Testing simple polygons. *Comput. Geom. Theory Appl.*, 8:97–114, 1997.

[34] S. Arya, D. M. Mount, and O. Narayan. Accounting for boundary effects in nearest-neighbor searching. *Discrete Comput. Geom.*, 16:155–176, 1996.

[35] D. M. Mount, R. Silverman, and A. Wu. On the area of overlap of translated polygons. *Computer Vision and Image Understanding*, 64:53–61, 1996.

[36] D. M. Mount and N. Netanyahu. Computationally efficient algorithms for high-dimensional robust estimators. *Graphical Models and Image Processing*, 56:289–303, 1994.

[37] R. Sharma, Y. Aloimonos, and D. M. Mount. Probabilistic analysis of some navigation strategies in a dynamic environment. *IEEE Trans. Syst. Man Cybern.*, 23:1465–1474, 1993.

[38] S. Chandran and D. M. Mount. A parallel algorithm for enclosed and enclosing triangles. *Internat. J. Comput. Geom. Appl.*, 2:191–214, 1992.

[39] S. Chandran, S. Kim, and D. M. Mount. Parallel computational geometry of rectangles. *Algorithmica*, 7:25–49, 1992.

[40] M. B. Dillencourt, D. M. Mount, and N. S. Netanyahu. A randomized algorithm for slope selection. *Internat. J. Comput. Geom. Appl.*, 2:1–27, 1992.

[41] S. Banerjee, D. M. Mount, and A. Rosenfeld. Pyramid computation of neighbor distance statistics in dot patterns. *Graphical Models Image Processing*, 53:373–381, 1991.

[42] S. K. Ghosh and D. M. Mount. An output-sensitive algorithm for computing visibility graphs. *SIAM J. Comput.*, 20:888–910, 1991.

[43] D. Mount and R. Silverman. Packing and covering the plane with translates of a convex polygon. *J. Algorithms*, 11:564–580, 1990.

[44] D. M. Mount. The number of shortest paths on the surface of a polyhedron. *SIAM J. Comput.*, 19:593–611, 1990.

[45] T. Y. Kong, D. M. Mount, and A. W. Roscoe. The decomposition of a rectangle into rectangles of minimal perimeter. *SIAM J. Comput.*, 17:1215–1231, 1988.

[46] Joseph S. B. Mitchell, D. M. Mount, and C. H. Papadimitriou. The discrete geodesic problem. *SIAM J. Comput.*, 16:647–668, 1987.

[47] D. M. Mount. Storing the subdivision of a polyhedral surface. *Discrete Comput. Geom.*, 2:153–174, 1987.

[48] T. Y. Kong, D. M. Mount, and M. Werman. The decomposition of a square into rectangles of minimal perimeter. *Discrete Appl. Math.*, 16:239–243, 1987.

Invited Book Chapters

[49] D. M. Mount, N. S. Netanyahu, and S. Ratanasanya. New approaches to robust, point-based image registration. In J. LeMoigne, R. Eastman, and N. S. Netanyahu, editors, *Image Registration for Remote Sensing*, pages 179–199. Cambridge University Press, 2011.

[50] S. Arya and D. M. Mount. Computational geometry: Proximity and location. In D. Mehta and S. Sahni, editors, *The Handbook of Data Structures and Applications*, pages 63.1–63.22. Chapman & Hall/CRC, Boca Raton, Florida, 2005.

[51] D. M. Mount. Geometric intersection. In J. E. Goodman and J. O'Rourke, editors, *The Handbook of Discrete and Computational Geometry, 2nd Edition*, pages 857–876. Chapman & Hall/CRC, Boca Raton, FL, 2004.

[52] D. M. Mount, N. S. Netanyahu, and E. Zuck. Analyzing the number of samples required for an approximate monte-carlo LMS line estimator. In M. Hubert, G. Pison, A. Struyf, and S. Van Aelst, editors, *Theory and Applications of Recent Robust Methods*, Statistics for Industry and Technology, pages 207–219. Birkhauser, Basel, 2004.

[53] S. Maneewongvatana and D. M. Mount. Analysis of approximate nearest neighbor searching with clustered point sets. In M. H. Goldwasser, D. S. Johnson, and C. C. McGeoch, editors, *Data Structures, Near Neighbor Searches, and Methodology: Fifth and Sixth DIMACS Implementation Challenges*, volume 59 of *DIMACS Series in Discr. Math. and Theoret. Comp. Sci.*, pages 105–123. AMS, 2002.

[54] D. M. Mount and A. Rosenfeld. Computational geometry: A subject-classified bibliography of recent research. In R. Klette, A. Rosenfeld, and F. Sloboda, editors, *Advances in Digital and Computational Geometry*, pages 341–363. Springer, Singapore, 1998.

[55] D. M. Mount. Geometric intersection. In J. E. Goodman and J. O'Rourke, editors, *The Handbook of Discrete and Computational Geometry*. CRC Press LLC, Boca Raton, FL, 1997.

[56] P. J. Rousseeuw, N. Netanyahu, and D. M. Mount. New statistical and computational results on the repeated median regression estimator. In S. Morgenthaler, E. Ronchetti, and W. A.

Stahel, editors, *New Directions in Statistical Data Analysis and Robustness*, pages 177–194. Birkhauser Verlag, Basel, 1993.

[57] D. M. Mount. The densest double-lattice packing of a convex polygon. In J. Goodman, R. Pollack, and W. Steiger, editors, *Discrete and Computational Geometry: Papers from the DIMACS Special Year*, volume 6 of *DIMACS Series in Discrete Mathematics and Theoretical Computer Science*, pages 245–262. Amer. Math. Soc., 1991.

[58] D. Mount and R. Silverman. Combinatorial and computational aspects of Minkowski decompositions. In R. A. Melter, A. Rosenfeld, and P. Bhattacharya, editors, *Contemporary Mathematics*, volume 119, pages 107–124. Amer. Math. Soc., 1991.

Papers in Refereed Conference Proceedings

[59] S. Arya, G. D. da Fonseca, and D. M. Mount. Optimal area-sensitive bounds for polytope approximation. In *Proc. 28th Annu. Sympos. Comput. Geom.*, 2012. (To appear).

[60] S. Arya, G. D. da Fonseca, and D. M. Mount. Polytope approximation and the Mahler volume. In *Proc. 23rd Annu. ACM-SIAM Sympos. Discrete Algorithms*, pages 29–42, 2012.

[61] S. Arya, G. D. da Fonseca, and D. M. Mount. Approximate polytope membership queries. In *Proc. 43rd Annu. ACM Sympos. Theory Comput.*, pages 579–586, 2011. (doi: 10.1145/1993636.1993713).

[62] S. Arya, G. D. da Fonseca, and D. M. Mount. A unified approach to approximate proximity searching. In *Proc. 18th Annu. European Sympos. Algorithms*, volume LNCS 6346/2011 of *Lecture Notes Comput. Sci.*, pages 374–385. Springer-Verlag, 2010. (doi: 10.1007/978-3-642-15775-2_32).

[63] S. A. Friedler and D. M. Mount. Spatio-temporal range searching over compressed kinetic sensor data. In *Proc. 18th Annu. European Sympos. Algorithms*, volume LNCS 6346/2011 of *Lecture Notes Comput. Sci.*, pages 386–397. Springer-Verlag, 2010. (doi: 10.1007/978-3-642-15775-2_33).

[64] S. Arya, D. M. Mount, and J. Xia. Tight lower bounds for halfspace range searching. In *Proc. 26th Annu. Sympos. Comput. Geom.*, pages 29–37, 2010. (doi: 10.1145/1810959.1810964).

[65] D. M. Mount and E. Park. A dynamic data structure for approximate range searching. In *Proc. 26th Annu. Sympos. Comput. Geom.*, pages 247–256, 2010. (doi: 10.1145/1810959.1811002).

[66] M. Cho, D. M. Mount, and E. Park. Maintaining nets and net trees under incremental motion. In *Proc. 20th Internat. Sympos. on Algorithms and Computation (ISAAC 2009)*, volume LNCS 5878 of *Lecture Notes Comput. Sci.*, pages 1134–1143. Springer-Verlag, 2009. (doi: 10.1007/978-3-642-10631-6_114).

[67] S. A. Friedler and D. M. Mount. Compressing kinetic data from sensor networks. In S. Dolev, editor, *Algorithmic Aspects of Wireless Sensor Networks (ALGOSENSORS 2009)*, volume LNCS 5804 of *Lecture Notes Comput. Sci.*, pages 191–202. Springer-Verlag, 2009. (doi: 10.1007/978-3-642-05434-1_20).

[68] S. Arya, G. D. da Fonseca, and D. M. Mount. Tradeoffs in approximate range searching made simpler. In *SIBGRAPI '08: Proceedings of the 2008 XXI Brazilian Sympos. on Computer Graphics and Image Processing*, pages 237–244. IEEE Computer Society, 2008. (doi: 10.1109/SIBGRAPI.2008.24).

[69] S. Arya, D. M. Mount, A. Vigneron, and J. Xia. Space-time tradeoffs for proximity searching in doubling spaces. In *Proc. 16th Annu. European Sympos. Algorithms*, volume LNCS 5193/2008 of *Lecture Notes Comput. Sci.*, pages 112–123. Springer-Verlag, 2008. (doi: 10.1007/978-3-540-87744-8_10).

[70] M. Cho and D. M. Mount. Embedding and similarity search for point sets under translation. In *Proc. 24th Annu. Sympos. Comput. Geom.*, pages 320–327, 2008. (doi: 10.1145/1377676.1377731).

[71] N. Memarsadeghi, J. Le Moigne, and D. M. Mount. Image fusion using cokriging. In *Proc. IEEE Internat. Geosci. and Remote Sensing Sympos. (IGARSS'06)*, pages 2518–2521, Denver, Colorado, 2006.

[72] S. Arya, T. Malamatos, and D. M. Mount. The effect of corners on the complexity of approximate range searching. In *Proc. 22nd Annu. Sympos. Comput. Geom.*, pages 11–20, 2006.

[73] S. Arya, T. Malamatos, and D. M. Mount. On the importance of idempotence. In *Proc. 38th Annu. ACM Sympos. Theory Comput.*, pages 564–573, 2006. (doi: 10.1145/1132516.1132598).

[74] M. Cho and D. M. Mount. Improved approximation bounds for planar point pattern matching. In *Proc. Ninth Workshop Algorithms Data Struct.*, volume 3608 of *Lecture Notes Comput. Sci.*, pages 432–443. Springer-Verlag, 2005.

[75] S. Arya, T. Malamatos, and D. M. Mount. Space-time tradeoffs for approximate spherical range counting. In *Proc. 16th Annu. ACM-SIAM Sympos. Discrete Algorithms*, pages 535–544, 2005.

[76] F. B. Atalay and D. M. Mount. Pointerless implementation of hierarchical simplicial meshes and efficient neighbor finding in arbitrary dimensions. In *Proc. 13th Internat. Meshing Roundtable (IMR 2004)*, Williamsburg, VA, 2004. 15–26.

[77] D. M. Mount, N. S. Netanyahu, C. Piatko, R. Silverman, and A. Y. Wu. A computational framework for incremental motion. In *Proc. 20th Annu. Sympos. Comput. Geom.*, pages 200–209, 2004.

[78] J. Erickson, S. Har-Peled, and D. M. Mount. On the least median square problem. In *Proc. 20th Annu. Sympos. Comput. Geom.*, pages 273–279, 2004.

[79] N. Memarsadeghi, D. M. Mount, N. S. Netanyahu, and J. Le Moigne. A fast implementation of the ISOCLUS algorithm. In *Proc. IEEE Internat. Geosci. and Remote Sensing Sympos. (IGARSS'03)*, volume III, pages 2057–2059, Toulouse, France, 2003.

[80] F. B. Atalay and D. M. Mount. Interpolation over light fields with applications in computer graphics. In R. Ladner, editor, *Proc. Fifth Workshop Algorithm Engineering and Experiments*, pages 56–68. SIAM, 2003.

[81] T. Kanungo, D. M. Mount, N. S. Netanyahu, C. Piatko, R. Silverman, and A. Y. Wu. A local search approximation algorithm for k-means clustering. In *Proc. 18th Annu. Sympos. Comput. Geom.*, pages 10–18, 2002.

[82] S. Arya, T. Malamatos, and D. M. Mount. Space-efficient approximate Voronoi diagrams. In *Proc. 34th Annu. ACM Sympos. Theory Comput.*, pages 721–730, 2002.

[83] S. Maneewongvatana and D. M. Mount. The analysis of a probabilistic approach to nearest neighbor searching. In *Proc. Seventh Workshop Algorithms Data Struct.*, volume 2125 of *Lecture Notes Comput. Sci.*, pages 276–286. Springer-Verlag, 2001.

[84] S. Arya, T. Malamatos, and D. M. Mount. Entropy-preserving cuttings and space-efficient planar point location. In *Proc. 12th Annu. ACM-SIAM Sympos. Discrete Algorithms*, pages 256–261, 2001.

[85] S. Arya, T. Malamatos, and D. M. Mount. A simple entropy-based algorithm for planar point location. In *Proc. 12th Annu. ACM-SIAM Sympos. Discrete Algorithms*, pages 262–268, 2001.

[86] M. Charikar, S. Khuller, D. M. Mount, and G. Narasimhan. Algorithms for facility location problems with outliers. In *Proc. 12th Annu. ACM-SIAM Sympos. Discrete Algorithms*, pages 642–651, 2001.

[87] S. Arya, T. Malamatos, and D. M. Mount. Nearly optimal expected-case planar point location. In *Proc. 41st Annu. IEEE Sympos. Found. Comput. Sci.*, pages 208–218, 2000.

[88] S. Maneewongvatana and D. M. Mount. An empirical study of a new approach to nearest neighbor searching. In *Proc. Third Workshop Algorithm Engineering and Experiments*, volume LNCS 2153 of *Lecture Notes Comput. Sci.*, pages 172–187. Springer-Verlag, 2001.

[89] T. Kanungo, D. M. Mount, N. S. Netanyahu, C. Piatko, R. Silverman, and A. Y. Wu. The analysis of a simple k-means clustering algorithm. In *Proc. 16th Annu. Sympos. Comput. Geom.*, pages 100–109, 2000.

[90] S. Arya, S.-W. Cheng, D. M. Mount, and H. Ramesh. Efficient expected-case analysis for planar point location. In *Proc. Seventh Scand. Workshop Algorithm Theory*, volume 1851 of *Lecture Notes in Computer Science*, pages 353–366, Bergen, Norway, 2000. Springer.

[91] J. LeMoigne, N. Netanyahu, J. Masek, D. M. Mount, M. Honzak, and S. N. Goward. Georegistration of landsat data by robust matching of wavelet features. In *Proc. of the IEEE Internat. Geoscience and Remote Sensing Sympos. (IGARSS'00)*, 2000.

[92] M. Murphy, D. M. Mount, and C. W. Gable. A point-placement strategy for conforming delaunay tetrahedralization. In *Proc. 11th Annu. ACM-SIAM Sympos. Discrete Algorithms*, pages 67–74, 2000.

[93] T. Kanungo, D. M. Mount, N. S. Netanyahu, C. Piatko, R. Silverman, and A. Y. Wu. Computing nearest neighbors for moving points and applications to clustering. In *Proc. Tenth Annu. ACM-SIAM Sympos. Discrete Algorithms*, pages S931–S932, 1999.

[94] S. Maneewongvatana and D. M. Mount. Analysis of approximate nearest neighbor searching with clustered point sets. In *Proc. First Workshop Algorithm Engineering and Experiments*, 1999. (Appeared in DIMACS Series in Discrete Mathematics and Theoretical Computer Science, Vol. 59, 2002.).

[95] D. M. Mount and F. T. Pu. Binary space partitions in pleucker space. In *Proc. First Workshop Algorithm Engineering and Experiments*, volume 1619 of *Lecture Notes Comput. Sci.*, pages 94–113. Springer-Verlag, 1999.

[96] S. Arya, S.-W. Cheng, and D. M. Mount. Approximation algorithm for multiple-tool milling. In *Proc. 14th Annu. Sympos. Comput. Geom.*, pages 297–306, 1998.

[97] D. M. Mount, N. S. Netanyahu, and J. Le Moigne. Improved algorithms for robust point pattern matching and applications to image registration. In *Proc. 14th Annu. Sympos. Comput. Geom.*, pages 155–164, 1998.

[98] D. M. Mount, N. S. Netanyahu, K. R. Romanik, R. Silverman, and A. Y. Yu. A practical approximation algorithm for the LMS line estimator. In *Proc. Eighth Annu. ACM-SIAM Sympos. Discrete Algorithms*, pages 473–482, 1997.

[99] S. Arya and D. M. Mount. Approximate range searching. In *Proc. 11th Annu. Sympos. Comput. Geom.*, pages 172–181, 1995.

[100] S. Arya, D. M. Mount, and O. Narayan. Accounting for boundary effects in nearest-neighbor searching. In *Proc. 11th Annu. Sympos. Comput. Geom.*, pages 336–344, 1995.

[101] S. Arya, G. Das, D. M. Mount, J. S. Salowe, and M. Smid. Euclidean spanners: Short, thin, and lanky. In *Proc. 27th Annu. ACM Sympos. Theory Comput.*, pages 489–498, 1995.

[102] S. Arya, D. M. Mount, and M. Smid. Randomized and deterministic algorithms for geometric spanners of small diameter. In *Proc. 35th Annu. IEEE Sympos. Found. Comput. Sci.*, pages 703–712, 1994.

[103] J. S. B. Mitchell, D. M. Mount, and S. Suri. Query-sensitive ray shooting. In *Proc. Tenth Annu. Sympos. Comput. Geom.*, pages 359–368, 1994.

[104] S. Arya, D. M. Mount, N. S. Netanyahu, R. Silverman, and A. Wu. An optimal algorithm for approximate nearest neighbor searching. In *Proc. Fifth Annu. ACM-SIAM Sympos. Discrete Algorithms*, pages 573–582, 1994.

[105] E. M. Arkin, M. T. Goodrich, J. S. B. Mitchell, D. M. Mount, C. D. Piatko, and S. S. Skiena. Point probe decision trees for geometric concept classes. In *Proc. 3th Workshop Algorithms Data Struct.*, volume 709 of *Lecture Notes Comput. Sci.*, pages 95–106. Springer-Verlag, 1993.

[106] S. Arya and D. M. Mount. Approximate nearest neighbor queries in fixed dimensions. In *Proc. Fourth Annu. ACM-SIAM Sympos. Discrete Algorithms*, pages 271–280, 1993.

[107] S. Arya and D. M. Mount. Algorithms for fast vector quantization. In *Data Compression Conference (DCC'93)*, pages 381–390. IEEE Press, 1993.

[108] J. Matoušek, D. M. Mount, and N. S. Netanyahu. Efficient randomized algorithms for the repeated median line estimator. In *Proc. Fourth Annu. ACM-SIAM Sympos. Discrete Algorithms*, pages 74–82, 1993.

[109] D. M. Mount. Intersection detection and separators for simple polygons. In *Proc. Eighth Annu. Sympos. Comput. Geom.*, pages 303–311, 1992.

[110] R. Sharma and Y. Aloimonos. Navigation in a hazardous environment with distributed shelters. In *Proc. IEEE Int'l. Conf. on Systems, Man, and Cybernetics*, pages 883–898, Charlottesville, VA, 1991.

[111] T. Kao, D. M. Mount, and A. Saalfeld. Dynamic maintenance of delaunay triangulations. In *Proc. 10th Sympos. on Computer Assisted Cartography (AUTOCARTO 10)*, pages 219–233, 1991.

[112] D. M. Mount and A. Saalfeld. Globally-equiangular triangulations of co-circular points in $O(n \log n)$ time. In *Proc. Fourth Annu. Sympos. Comput. Geom.*, pages 143–152, 1988.

[113] S. K. Ghosh and D. M. Mount. An output sensitive algorithm for computing visibility graphs. In *Proc. 28th Annu. IEEE Sympos. Found. Comput. Sci.*, pages 11–19, 1987.

[114] D. M. Mount. Storing the subdivision of a polyhedral surface. In *Proc. Second Annu. Sympos. Comput. Geom.*, pages 150–158, 1986.

[115] L. Babai, D. Yu. Grigoriev, and D. M. Mount. Isomorphism of graphs with bounded eigenvalue multiplicity. In *Proc. 14th Annu. ACM Sympos. Theory Comput.*, pages 310–324, 1982.

Papers in Unrefereed Conference Proceedings

[116] N. Memarsadeghi, V. C. Raykar, R. Duraiswami, and D. M. Mount. Efficient kriging via fast matrix-vector products. In *Proc. 2008 IEEE Aerospace Conference*, 2008. (doi: 10.1109/AERO.2008.4526433).

[117] N. Memarsadeghi and D. M. Mount. Efficient implementation of an optimal interpolator for large spatial data sets. In *Computational Science - ICCS 2007; Internat. Conference on Computational Science, Part II*, volume 4488 of *Lecture Notes Comput. Sci.*, pages 503–510. Springer-Verlag, 2007. (doi: 10.1007/978-3-540-72586-2_74).

[118] N. Memarsadeghi, J. Lemoigne, D.M. Mount, and J. Morisette. A new approach to image fusion based on cokriging. In *Proc. 8th Int'l Conf. on Information Fusion*, volume 1, pages 622–629, Philadelphia, PA, 2005.

[119] F. B. Atalay and D. M. Mount. Ray interpolants for fast ray-tracing reflections and refractions. In *Journal of WSCG (Proc. Internat. Conf. in Central Europe on Computer Graphics, Visualization, and Computer Vision)*, volume 10(3), pages 1–8, 2002.

[120] D. M. Mount and S. Maneewongvatana. On the efficiency of nearest neighbor searching with data clustered in lower dimensions. In *Computational Science (ICCS 2001)*, volume 2073 of *Lecture Notes Comput. Sci.*, pages 842–851. Springer-Verlag, 2001.

[121] S. Maneewongvatana and D. M. Mount. It's okay to be skinny, if your friends are fat. In *Proc. 4th Annual CGC Workship on Computational Geometry*, 1999. Electronic proceedings `http://www.cs.jhu.edu/~cgc/abstracts99/mount.ps`.

[122] D. M. Mount, N. S. Netanyahu, C. Piatko, R. Silverman, and A. Y. Wu. Quantile approximation for robust statistical estimation and k-enclosing problems. In *Proc. Tenth Canad. Conf. Comput. Geom.*, pages 18–19, 1998.

[123] T. Kanungo, D. M. Mount, N. S. Netanyahu, C. Piatko, R. Silverman, and A. Y. Wu. Approximating large convolutions in digital images. In R. A. Melter, A. Y. Wu, and L. J. Latecki, editors, *Proc. Vision Geometry VII*, volume 3454 of *SPIE*, pages 216–227, 1998.

[124] D. M. Mount, N. S. Netanyahu, and J. Le Moigne. Efficient algorithms for robust feature matching. In *Proceedings of the Image Registration Workshop*, pages 247–256, NASA Goddard Space Flight Center, Greenbelt, MD, 1997.

[125] D. M. Mount and S. Arya. ANN: A library for approximate nearest neighbor searching. In *Proc. 2nd Annual CGC Fall Workship on Computational Geometry*, 1997. (Electronic proceedings: `http://www.cs.duke.edu/CGC/workshop97.html`).

[126] D. M. Mount and F. T. Pu. Stabbing orthogonal objects in 3-space. In *Proc. 1st Annual CGC Fall Workship on Computational Geometry*, 1996. (Electronic proceedings: `http://www.cs.jhu.edu/labs/cgc/cgc\_conf.html`).

[127] D. M. Mount, N. S. Netanyahu, R. Silverman, and A. Wu. Chromatic nearest neighbour searching: A query sensitive approach. In *Proc. Seventh Canad. Conf. Comput. Geom.*, pages 261–266, 1995.

[128] D. M. Mount, R. Silverman, and A. Wu. On the area of overlap of translated polygons. In R. A. Melter and A. Y. Wu, editors, *Proc. Vision Geometry III*, volume 2060 of *SPIE*, pages 254–264, 1994.

[129] S. Arya, N. Phamdo, D. M. Mount, and N. Farvardin. Fast search algorithms with applications to split and multistage vector quantization of speech lsp parameters. In *Proc. 1993 IEEE Speech Coding Workshop*, St-Jovite, Quebec, 1993.

[130] Esther M. Arkin, P. Belleville, Joseph S. B. Mitchell, D. M. Mount, K. Romanik, S. Salzberg, and D. Souvaine. Testing simple polygons. In *Proc. Fifth Canad. Conf. Comput. Geom.*, pages 387–392, 1993.

[131] D. M. Mount and N. S. Netanyahu. Efficient algorithms for robust circular arc estimators. In *Proc. Fifth Canad. Conf. Comput. Geom.*, pages 79–84, 1993.

[132] M. Dillencourt, D. M. Mount, and A. Saalfeld. On the maximum number of intersections of two polyhedra in 2 and 3 dimensions. In *Proc. Fifth Canad. Conf. Comput. Geom.*, pages 49–54, 1993.

[133] D. M. Mount and R. Silverman. Minimum enclosures with specified angles. In R. A. Melter and A. Y. Wu, editors, *Proc. Vision Geometry I*, volume 1832 of *SPIE*, pages 80–91, 1992.

[134] P. J. Rousseeuw, N. Netanyahu, and D. M. Mount. New statistical and computational results on the repeated median regression estimator. In *Proc. of the Workshop on Data Analysis and Robustness*, Ascona, Switzerland, 1992.

[135] M.-A. K. Posenau and D. M. Mount. Delaunay triangulations and computational fluid dynamics meshes. In *Proc. Fourth Canad. Conf. Comput. Geom.*, pages 316–321, 1992.

[136] D. M. Mount and N. S. Netanyahu. Computationally efficient algorithms for high-dimensional robust estimators. In *Proc. Fourth Canad. Conf. Comput. Geom.*, pages 257–263, 1992.

[137] T. C. Kao and D. M. Mount. Incremental construction and dynamic maintenance of constrained Delaunay triangulations. In *Proc. Fourth Canad. Conf. Comput. Geom.*, pages 170–175, 1992.

[138] T. C. Kao and D. M. Mount. An algorithm for computing compacted Voronoi diagrams defined by convex distance functions. In *Proc. Third Canad. Conf. Comput. Geom.*, pages 104–109, 1991.

[139] M. B. Dillencourt, D. M. Mount, and N. S. Netanyahu. A randomized algorithm for slope selection. In *Proc. Third Canad. Conf. Comput. Geom.*, pages 135–140, 1991.

[140] D. M. Mount and S. Chandran. A unified approach to finding enclosing and enclosed triangles. In *Proc. 26th Allerton Conf. Commun. Control Comput.*, 1988.

[141] W. I. Gasarch, D. Kueker, and D. M. Mount. Recursive categoricity of highly recursive rooted graphs. In *19th Southeastern Internat. Conference on Combinatorics, Graph Theory, and Computing*, Baton Rouge, 1988. (Full version appeared in Congressus Numeratium, 1989.).

[142] S. Chandran and D. M. Mount. Shared memory algorithms and the medial axis transform. In *Proc. 1987 Workshop on Computer Architecture for Pattern Analysis and Machine Intelligence*, pages 44–50, 1987.

Collections Edited

[143] L. J. Latecki, D. M. Mount, and A. Y. Wu, editors. *Vision Geometry XIII, Proceedings of SPIE Vol. 5675*. SPIE, 2005.

[144] L. J. Latecki, D. M. Mount, and A. Y. Wu, editors. *Vision Geometry XII, Proceedings of SPIE Vol. 5300*. SPIE, 2004.

[145] D. M. Mount and C. Stein, editors. *Algorithm Engineering and Experiments: 4th Internat. Workshop*. Springer-Verlag, 2002.

[146] L. J. Latecki, D. M. Mount, and A. Y. Wu, editors. *Vision Geometry XI, Proceedings of SPIE Vol. 4794*. SPIE, 2002.

[147] L. J. Latecki, D. M. Mount, and A. Y. Wu, editors. *Vision Geometry X, Proceedings of SPIE Vol. 4476*. SPIE, 2001.

[148] L. J. Latecki, D. M. Mount, and A. Y. Wu, editors. *Vision Geometry IX, Proceedings of SPIE Vol. 4117*. SPIE, 2000.

[149] L. J. Latecki, D. M. Mount, and A. Y. Wu, editors. *Vision Geometry VIII, Proceedings of SPIE Vol. 3811*. SPIE, 2000.

Other Papers and Class Resources

1. "ANN Programming Manual," unpublished manuscript, 1998.
2. Unpublished class lecture notes. Available from `http://www.cs.umd.edu/~mount`.
   - "CMSC 427: Computer Graphics," 2003.
   - "CMSC 451: Algorithm Design," 2003.
   - "CMSC 754: Computational Geometry," 2002.
   - "CMSC 420: Data Structures," 2001.
   - "CMSC 251: Algorithms", 1998.

Invited Lectures

1. "Proximity Searching in Euclidean and Other Metric Spaces," NASA Goddard Space Flight Center, Beltsville, Maryland (Nov 2009).
2. "On Proximity Searching in Euclidean and Metric Spaces," Federal University of Rio de Janeiro (UFRJ), Rio de Janeiro, Brazil (Oct 2008).
3. "Embedding and Similarity Search for Point Sets under Translation," National Institute of Pure and Applied Mathematics (IMPA), Rio de Janeiro, Brazil (Oct 2008).
4. "Embedding and Similarity Search for Point Sets under Translation," Hong Kong University of Science and Technology (Aug 2008).
5. "Fat is Good: The Skinny on Approximate Range Searching," University of Texas, Dallas (Feb 2007).
6. "Keep Your Friends Close and Your Enemies Closer: The Art of Proximity Searching," Geroge Mason University (Sept 2006).
7. "On Approximate Range Searching, or Get in Shape; Round is a Good Choice," Keynote address at the 18th Canadian Conf. on Computational Geometry, Kingston, Ontario (August 2006).
8. "Keep Your Friends Close and Your Enemies Closer: The Art of Proximity Searching," University of Buffalo (April 2006).
9. "Keep Your Friends Close and Your Enemies Closer: The Art of Proximity Searching," Keynote address at the 8th Workshop on Algorithm Engineering and Experiments (ALENEX-'06), (January 2006).

10. "Two Heads are Better Than One: Combining Two Heuristics to Produce One Approximation Algorithm", Georgetown University (October 2005).

11. "The ABCs of AVDs: Geometric Retrieval Made Simple," Keynote address at the International Symp. of Algorithms and Computation (ISAAC'04), Hong Kong (December 2004).

12. "On the Least Median Square Problem," Invited talk at Interface 2004 (May 2004).

13. "Data Structures for Approximate Proximity and Range Searching," CSCAMM Workshop on the Fast Multipole Method, University of Maryland (April 2004).

14. "Maintaining Geometric Structures under Incremental Motion," Hong Kong University of Science and Technology (January 2004).

15. "Maintaining Geometric Structures under Incremental Motion," Workshop on Robot Navigation (December 2003).

16. "Approximate Voronoi Diagrams," Mathematical Sciences Research Institute (MSRI), Berkeley (October 2003).

17. "Approximation Algorithms for Clustering," University of Alabama (September 2003).

18. "Approximate Voronoi Diagrams," University of Illinois at Urbana-Champaign (July 2003).

19. "Analyzing The Number of Samples Required for an Approximate Monte-Carlo LMS Line Estimator," DIMACS Workshop on Data Depth, (May 2003).

20. "Incremental Motion and k-Means Clustering," DIMACS Workshop on Motion (November 2002).

21. "k-Means Clustering and Applications," University of Notre Dame (April 2002).

22. "k-Means Clustering and Applications in Image Processing," 11th Workshop "Theoretical Foundations of Computer Vision, Schloss Dagstuhl, Wadern, Germany (April 2002).

23. "Analysis of a Local-Search Approximation Algorithm for k-Means Clustering", Hong Kong University of Science and Technology (November 2001).

24. "Two Heads are Better Than One: Combining Two Heuristics to Produce One Approximation Algorithm", Hong Kong University of Science and Technology (October 2001).

25. "Pseudo-kinetic Algorithms for Data Clustering", University of Pisa (September 1999).

26. "Nearest Neighbor Searching: New Issues, New Questions", Invited Talk at IWOSS'99 (International Workshop on Similarity Search), (September 1999).

27. "Hierarchical Algorithms for Geometric Optimization", Hong Kong University of Science and Technology (June 1999).

28. "Computational Geometry for Solid Modeling", (a four hour tutorial on computational geometry presented at the 1999 ACM Solid Modeling Symposium), (June 1999).

29. "Pseudo-kinetic Algorithms for Data Clustering", Los Alamos National Laboratory, Los Alamos, New Mexico (March 1999).

30. "Improved Algorithms for Robust Point Matching and Applications to Image Registration", University of Tokyo, Tokyo, Japan (November 1998).

31. "Robust Line Estimators (fitting good lines to bad data)", Georgetown University (October 1997).

32. "Practical Approaches to Nearest Neighbor Searching in Moderate Dimensions", University of Tokyo, Tokyo, Japan (July 1997).

33. "Robust Line Estimators", University of Genova, Genova, Italy (June 1997)

34. "A Practical Algorithm for the LMS Line Estimator", Schloss Dagstuhl, Wadern, Germany (February 1997).

35. "Robust Line Estimators", Hong Kong University of Science and Technology (January 1997)

36. "Routing and Clustering in Graphs", Census Bureau, Suitland, Maryland (October 1996).

37. "Tree Decomposition of Spanners", Max-Planck Institute for Computer Science, Saarbrücken, Germany (November 1994).

38. "Spanners Constructed from Well-Separated Pair Decompositions", Max-Planck Institute for Computer Science, Saarbrücken, Germany (November 1994).

39. "Nearest Neighbor Searching and Related Problems", Freiburg University, Freiburg, Germany (September 1994).

40. "Geometric Structures", A series of 3 lectures presented at Bilkent University, Ankara, Turkey (August 1994).

41. "Nearest Neighbor Searching", Johns Hopkins University, (May 1993).

42. "Nearest Neighbor Searching", University of New Hampshire, (March 1993).

43. "Minimum enclosures with specified angles", SPIE OE/Technology '92, Boston (November 1992).

44. "Approximate Nearest Neighbor Searching", University of Virginia (September 1992).

45. "Intersection Detection and Polygon Separators", SUNY at Stony Brook (August 1992).

46. "Geometric Packing and Covering", Department of Mathematics, University of Maryland (February 1992).

47. "Confronting Exponential Blow-up in Nearest Neighbor Searching", UMIACS Applied Computational Geometry Day, University of Maryland (February 1992).

48. "Intersection Detection and Polygon Separators", Invited talk at the MSI Workshop on Computational Geometry, SUNY at Stony Brook (October 1991).

49. "Computational Geometry and Mesh Generation," NASA Langley (September 1991).

50. "Geometric Packing and Covering," Cornell University (April 1991).

51. "Intersection Detection and Polygon Separators", Cornell University (April 1991).

52. "Geometric Packing and Covering," 1990 ORSA/TIMS Conference (October 1990).

53. "Slope Selection," National Institute of Standards and Technology, Gaithersburg, Maryland (December 1989).

54. "Object Detection in Images by Probing," AMS Special Session on Mathematics in Computer Vision, Hoboken, New Jersey (October 1989).

55. "Geometric Packing and Covering," DIMACS Workshop on Geometric Complexity, Princeton University (October 1989).

56. "Geometric Packing and Covering," Cornell University (November 1988).

57. "Geometric Algorithms and Data Structures," Virginia Tech, (February 1988).

58. "An Output Sensitive Algorithm for Constructing Visibility Graphs," New York University (November 1987).

59. "On the Number of Shortest Paths on Convex Polyhedra," New York University, Computational Geometry Day (January 1987).

60. "Packing Flexible Objects," Johns Hopkins University (April 1986) and UMIACS Colloquium Series (April 1986).

Courses Taught

Spring 2012	CMSC 754	Computer Graphics (48 students)
Fall 2011	CMSC 427	Computer Graphics (42 students)
Spring 2011	CMSC 498M	Game Programming (17 students)
Fall 2010	CMSC 427	Computer Graphics (26 students)
Spring 2010	CMSC 754	Computational Geometry (31 students)
Fall 2009	CMSC 427	Computer Graphics (30 students)
Spring 2009	(sabbatical leave)	
Fall 2008	(sabbatical leave)	
Spring 2008	CMSC 451	Design and Analysis of Algorithms (28 students)
Fall 2007	CMSC 498M	Game Programming (14 students)
Spring 2007	CMSC 754	Computational Geometry (29 students)
Fall 2006	CMSC 498M	Game Programming (18 students)
Spring 2006	CMSC 427	Computer Graphics (24 students)
Fall 2005	CMSC 754	Computational Geometry (30 students)
Fall 2004	CMSC 131	Object-Oriented Programming I (180 students)
Spring 2004	CMSC 427	Computer Graphics (53 students)
Fall 2003	CMSC 451	Design and Analysis of Algorithms (50 students)

Spring 2003	CMSC 427	Computer Graphics (65 students)
Fall 2002	CMSC 754	Computational Geometry (48 students)
Spring 2002	(sabbatical leave)	
Fall 2001	(sabbatical leave)	
Spring 2001	CMSC 420	Data Structures (55 students)
Fall 2000	CMSC 427	Computer Graphics (42 students)
Spring 2000	CMSC 754	Computational Geometry (38 students)
	CMSC 858K	Data Structures and Algorithms for Information Retrieval (7 students)
Fall 1999	CMSC 451	Design and Analysis of Algorithms (58 students)
Spring 1998	CMSC 251	Algorithms (85 students)
Fall 1997	CMSC 754	Computational Geometry (50 students)
Spring 1997	CMSC 427/828M	Computer Graphics (80 students)
Fall 1996	CMSC 451	Design and Analysis of Algorithms (60 students)
Spring 1996	CMSC 451	Design and Analysis of Algorithms (60 students)
Fall 1995	CMSC 498M/828M	Computer Graphics (70 students)
Spring 1995	(sabbatical leave)	
Fall 1994	(sabbatical leave)	
Spring 1994	CMSC 651	Analysis of Algorithms (40 students)
Fall 1993	CMSC 420	Data Structure (55 students)
Spring 1993	CMSC 420	Data Structure (60 students)
	CMSC 498C/828C	Computer Graphics (55 students)
Fall 1992	CMSC 451	Design and Analysis of Algorithms (55 students)
Spring 1992	CMSC 420	Data Structure (50 students)
Fall 1991	CMSC 451	Design and Analysis of Algorithms (70 students)
Spring 1991	CMSC 451	Design and Analysis of Algorithms (60 students)
Fall 1990	CMSC 251	Algorithms (135 students)
Spring 1990	CMSC 498C/828C	Computer Graphics (35 students)
Fall 1989	CMSC 451	Design and Analysis of Algorithms (50 students)
Spring 1989	CMSC 451	Design and Analysis of Algorithms (50 students)
Fall 1988	CMSC 498C/828C	Computer Graphics (30 students)
Spring 1988	CMSC 651	Analysis of Algorithms (40 students)
Fall 1987	CMSC 452	Elementary Theory of Computation (55 students)
Spring 1987	CMSC 451	Design and Analysis of Algorithms (55 students)
Fall 1986	CMSC 451	Design and Analysis of Algorithms (50 students)
Spring 1986	CMSC 651	Analysis of Algorithms (12 students)
Fall 1985	CMSC 451	Design and Analysis of Algorithms (45 students)
Spring 1985	CMSC 651	Analysis of Algorithms (12 students)

Grants

- 5/08–4/13, ONR MURI Grant 20082040, "Scalable Methods for the Analysis of Network-Based Data," $462,642, co-I. (This is my part of a $5,381,300 grant involving multiple PIs from U.C. Irvine, U. Washington, and Penn State.)

- 10/06–9/10, NSF Grant CCF–0635099, "Approximation Algorithms for Geometric Retrieval," $307,386, PI.
- 8/01–8/06, NSF Grant CCR–0098151, "Structure-Sensitive Geometric Algorithms and Data Structures," $255,000, PI.
- 9/97–8/01, NSF Grant CCR–9712379, "Geometric Tools and Applications", $208,789, PI.
- 8/93–1/96, NSF Grant CCR–9310705, "Geometric Tools and Applications", $65,584, PI.
- 8/93–1/96, NSF ROA Supplement to CCR–9310705, $13,116.
- 2/91–3/93, Bureau of the Census JSA 91–5 "Interviewer Assignment and Routing", $21,000, PI.
- 10/89–9/90, Bureau of the Census Grant JSA 89–32, "Efficient Joint Triangulation for Mapping", $25,000, PI.
- 7/89–12/91 NSF Grant CCR–89–08901, "Geometric Packing, Covering and Path Planning", $32,901, PI.

Awards and Honors

- ACM Recognition of Service Award for serving as the Conference Treasurer for the 41st ACM Symposium on Theory of Computing, 2009.
- ACM Recognition of Service Award for serving as the Conference Chair of the 24th Annual Symposium on Computational Geometry, 2008.
- Keynote speaker: 8th Workshop on Algorithm Engineering and Experiments (ALENEX'06), 2006, Miami, Florida.
- University of Maryland, School of CMPS, Dean's Award for Excellence in Teaching, 2005.
- Keynote Speaker: International Symposium on Algorithms on Algorithms and Comptation (ISAAC) 2004, Hong Kong.
- Hong Kong University of Science and Technology, School of Engineering, Award for Teaching Excellence Appreciation, 2001.
- University of Maryland, School of CMPS, Honorable Mention Citation for Excellence in Teaching, 2000.
- University of Maryland, Dept. of Computer Science, Award for Teaching Excellence, 1999.
- University of Maryland, School of CMPS, Dean's Award for Excellence in Teaching, 1997.
- Membership in the faculty of MAPL (Applied Mathematics Program at UMCP), 1996–present.
- National Technological University, List of Outstanding Instructors, 1994.

- University of Maryland, Dept. of Computer Science, Award for Teaching Excellence, 1993.
- University of Maryland, Dept. of Computer Science, Award for Teaching Excellence, 1991.
- University of Maryland, Dept. of Computer Science, Award for Teaching Excellence, 1987.
- University of Maryland, Dept. of Computer Science, Award for Teaching Excellence (Honorable mention), 1986.
- Purdue University, School of Science List of Outstanding Teachers in Science, 1984.

Advising:

Doctoral Students Advised:

2010	Sorelle A. Friedler
	Minkyoung Cho
2007	Guilherme da Fonseca
	Nargess Memarsadeghi
2006	Cengiz Celik
2004	F. Betul Atalay
2002	Michael Murphy
2001	Songrit Maneewongvatana
1998	Fan-Tao Pu
1993	Sunil Arya
1992	Thomas Kao
1991	Nathan Netanyahu (Co-advised with Azriel Rosenfeld)
1989	Sharat Chandran (Co-advised with Larry Davis)

Currently advising: Eunhui Park.

Master's Students Advised:

2000	Cengiz Celik
1997	Shu Cheah, Connie Peng, Yi Qiu, Steven Han
1996	Tobin Hill
1994	ZhaoYu Liu
1993	Shuo-Jen Wu
1992	Salil Joshi, TianXiong Xue
1989	Kuodung Shih, Adrienne Paiewonsky.
1987	Pauline Hwang

Undergraduate Projects Supervised:

2008	David Yoo
2007	Gregory Osefo
2005	Chihiro Hirai, Jordan Richardson

2004	Steven Helfand (Honors), Yulia Eyman (Honors), Tzu-Hsiu (Kevin) Chou Christopher Horn (Honors), Istvan Lazslo (Honors)
2003	In-Joon Chu
2001	Amir Caspi (Honors), Carina Hassan (Honors) Ransom Winder (Honors, CMPS Outstanding Graduating Seniors)
2000	Aleksey Martynov (Honors)
1999	Amy Yuan (Honors)
1998	Maria Jump (Summer Research Scholarship)
1997	James Starz
1996	Gregory Seidman
1994	Salim Chwaro
1993	Daniel Bounds

Mentoring High School Students:

2010–11	Qinlan Shen (Poolesville High).
1996–97	Ryan Cooper (Eleanor Roosevelt High).

Outside Service

Editorial Boards and Service Activities:

- *International J. Computational Geometry and Applications*. Associate editor (2008–present).
- *ACM Trans. Mathematical Software*. Associate editor (2006–present).
- ALENEX Steering Committee member (Workshop on Algorithm Engineering and Experiments) 2003–2007.
- *Pattern Recognition*. Editorial board member (1999–2006).
- *Computational Geometry: Theory and Applications*. Guest editor for the special issue on papers from the "19th ACM Symposium on Computational Geometry, 2003," Vol 31, 2005.

Conference Committees and Panels:

- NSF Proposal Review Panel (Algorithmic Foundations), 2012.
- Program Committee, Computational Geometry: Applications, Practice, and Theory (CG:APT), 2012.
- Program Committee, XXIV SIBGRAPI Conference on Graphics, Patterns and Images, 2011.
- Program Committee, 26th Annual Symposium on Computational Geometry (SoCG 2011), 2011.

- Program Committee, Workshop on Algorithm Engineering and Experiments (ALENEX'11), 2011.
- NSF CAREER Program Panel Review (Theoretical Foundations), 2010.
- Program Committee, 21st International Symposium on Algorithms and Computation (ISAAC 2010), 2010.
- Conference Co-Chair, 41st ACM Symposium on Theory of Computing (STOC 2009), Bethesda, Maryland, May 31–June 2, 2009.
- Conference Chair, 24th Symposium on Computational Geometry (SoCG 2008), University of Maryland, College Park, June 9–11, 2008.
- Program Committee, 18th International Symposium on Algorithms and Computation (ISAAC 2007), 2007.
- NSF Career Proposal Review Panel (Theoretical Foundations), 2006.
- Program Committee, 12th Annual International Computing and Combinatorics Conference (COCOON'06), 2006.
- Conference Co-Chair, IS&T/SPIE Electronic Imaging Science and Technology (Vision Geometry XIV), 2006.
- Conference Co-Chair, IS&T/SPIE Electronic Imaging Science and Technology (Vision Geometry XIII), 2005.
- Conference Co-Chair, IS&T/SPIE Electronic Imaging Science and Technology (Vision Geometry XII), 2004.
- Program Committee Co-Chair, 19th ACM Symposium on Computational Geometry (SoCG'03), 2003.
- Conference Co-Chair, 4th Workshop on Algorithm Engineering and Experiments (ALENEX'02), 2002.
- Conference Co-Chair, SPIE's OE/Technology '02 (Vision Geometry XI), 2002.
- Program Committee, 10th European Symposium on Algorithms (ESA), 2002.
- Conference Co-Chair, SPIE's OE/Technology '01 (Vision Geometry X), 2001.
- NSF ITR Proposal Review Panel (Numerical and Symbolic Computation), 2001.
- Conference Co-Chair, SPIE's OE/Technology '00 (Vision Geometry IX), 2000.
- Conference Co-Chair, SPIE's OE/Technology '99 (Vision Geometry VII), 1999.
- NSF CCR Proposal Review Panel (Numerical and Symbolic Computation), 1997.
- Program Committee, SPIE's OE/Technology '98 (Vision Geometry VI), 1998.
- Program Committee, 13th ACM Symposium on Computational Geometry, 1997
- Program Committee, NASA Image Registration Workshop, 1997.
- Program Committee, SPIE's OE/Technology '97 (Vision Geometry V), 1997.
- NSF CAREER Program Panel Review, 1996.
- Program Committee, SPIE's OE/Technology '96 (Vision Geometry IV), 1996.
- Program Committee, SPIE's OE/Technology '95 (Vision Geometry III), 1995.

- Program Committee, SPIE's OE/Technology '94 (Vision Geometry II), 1993.
- Program Committee, SPIE's OE/Technology '93 (Vision Geometry I), 1992.

Educational and Other:

- Speaker at Prince George's Community College Science and Engineering Day (1999).
- Speaker at Prince George's Community College Science and Engineering Day (1996).
- Mentor for High School Honors Student from Roosevelt High (1999).
- Mentor for High School Honors Student from Montgomery Blair (1992).
- Mentor for High School Honors Student from Montgomery Blair (1991).

Consulting

- Automatic Target Recognition Project, Army Center for Night Vision and Electro-Optics, Ft. Belvoir, Virginia (algorithms for the identification of targets in laser radar data), 1988–1989.
- Aging Services Project, Dept. of Sociology and Anthropology, Purdue University, Lafayette, Indiana (design and implementation of graph theoretic algorithms for social network analysis), 1984.
- Wintek Corp. Lafayette, Indiana (design and implementation of a C-language compiler for microprocessor), 1979.

University Service

2011–12	Member, University Undergraduate Studies PCC Committee
	Member, University Individual Studies Program Committee
2010–11	Member, University APT Appeals Committee
	Member, University Undergraduate Studies PCC Committee
	Member, University Individual Studies Program Committee
2009–10	Member, UMIACS APT Committee
	Member, University APT Appeals Committee
	Member, University Undergraduate Studies PCC Committee
	Member, University Individual Studies Program Committee
2008–09	(Sabbatical leave)
2007–08	Member, UMIACS Salary Committee
	Member, University Undergraduate Studies PCC Committee
	Member, University Individual Studies Program Committee
2006–07	Member, UMIACS APT Committee
	Member, University Undergraduate Studies PCC Committee
	Member, University Individual Studies Program Committee
	Member, Dorfman Prize Selection Committee
2005–06	Member, UMIACS APT Committee
	Member, University Undergraduate Studies PCC Committee
	Member, University Individual Studies Program Committee

	Member, University Medal Selection Committee
2004–05	Member, UMIACS APT Committee
	Member, UMIACS Salary Committee
	Member, University Undergraduate Studies PCC Committee
	Member, University Individual Studies Program Committee
2003–04	Member, UMIACS Steering Committee
	Member, University Undergraduate Studies PCC Committee
	Member, University Individual Studies Program Committee
2002–03	Member, UMIACS APT Committee
2001–02	(Sabbatical leave)
2000–01	Member, UMIACS Steering Committee
	Member, Computer Engineering Curriculum Committee.
	Member, Graduate School Fellowship Committee
	Member, CMPS Strategic Plan Advisory Committee
	Member, CMPS Library Advisory Committee
1999–00	Member, UMIACS APT Committee
	Member, UMIACS APT Salary Committee
	Member, Graduate School Fellowship Committee
	Member, CMSC Chair Search Committee
	Member, CMPS Graduate Education Task Force
	Member, CMPS Library Advisory Committee
	Member, Computer Engineering Curriculum Committee.
1998–99	Member, UMIACS APT Committee
	Member, UMIACS Steering Committee
	Member, UMIACS Graduate Fellowship Committee
	Member, Chen Scholarship Selection Committee
1997–98	Member, UMIACS Graduate Fellowship Committee
1996–97	Chair, UMIACS Graduate Fellowship Committee
	Panel member for Student Honor Council Hearings
1995–96	Chair, UMIACS Graduate Fellowship Committee
	Panel Moderator for Career Center's Career Week
1994–95	(Sabbatical leave)
1993–94	Member, Dean's Committee on Teaching Enhancement
	Member, UMIACS director search committee
1992–93	Member, UMIACS APT Committee
	Member, Provost's Library Advisory Committee
	Chair, Campus Senate Adjunct Committee on Instructional Resources
1991–92	Departmental Representative to Campus Senate
	Member, Campus Senate Committee to Study MLS and Ph.D. programs in CLIS
1990–91	Calculus Reform Committee
1989–90	Member, UMIACS APT Committee

Departmental Service

2011–12	Chair, APT Committee
	Chair, Professorial Faculty Merit Committee
	Library Coordinator
	Member, Graduate Admissions Committee
	Judge and Contributor, High School Programming Contest
2010–11	Chair, APT Committee
	Library Coordinator
	Member, Graduate Admissions Committee
	Judge and Contributor, High School Programming Contest
2009–10	Library Coordinator
	Member, Graduate Admissions Committee
2008–09	(Sabbatical leave)
2007–08	Chair, APT Committee
	Member, Teaching Evaluation Committee
	Library Coordinator
	Member, Graduate Admissions Committee
	Judge and Contributor, High School Programming Contest
2006–07	Chair, APT Committee
	Member, Teaching Evaluation Committee
	Member, Department Council
	Member, Graduate Admissions Committee
	Member, Committee to Revise CMSC Plan of Organization
	Library Coordinator
	Judge and Contributor, High School Programming Contest
2005–06	Chair, APT Committee
	Chair, Teaching Evaluation Committee
	Member, Department Council
	Member, Graduate Admissions Committee
	Member, Search Committee for position of Departmental Information Specialist
	Library Coordinator
	Judge and Contributor, High School Programming Contest
2004–05	Chair, Teaching Evaluation Committee
	Chair, Department Merit Pay Committee
	Member, Department Council
	Member, Graduate Admissions Committee
	Member, Introductory Course Committee
	Library Coordinator
	Judge and Contributor, High School Programming Contest
2003–04	Chair, APT Committee
	Member, Department Council
	Library Coordinator
	Judge and Contributor, High School Programming Contest
2002–03	Chair, Teaching Evaluation Committee
	Chair, Committee to Redesign Lower Division Courses

	Member, Department External Evaluation Committee
	Library Coordinator
	Judge and Contributor, High School Programming Contest
2001–02	(Sabbatical leave)
2000–01	Library Coordinator
	Member, Department Council
	Member, Faculty Recruiting Committee
	Member, Space Utilization Committee
	Member, Teaching Evaluation Committee
	Judge and Contributor, High School Programming Contest
1999–00	Library Coordinator
	Chair, CMSC Director of Administration Search Committee
	Member, Graduate Admissions Committee
	Member, Teaching Evaluation Committee
	Member, Department Council
	Member, Merit Pay Committee
	Member, Academic Evaluation Committee
	Member, Space Committee
	Judge and Contributor, High School Programming Contest
1998–99	Library Coordinator
	Member, Teaching Evaluation Committee
	Member, Department Council
	Member, Graduate Admissions Committee
	Judge and Contributor, High School Programming Contest
	Member, Teaching Evaluation Committee
1997–98	Library Coordinator
	Member, Graduate Admissions Committee
	Judge and Contributor, High School Programming Contest
	Member, Teaching Evaluation Committee
1996–97	Judge and Contributor, High School Programming Contest
	Member, Teaching Evaluation Committee
1995–96	Member, Department Council
	Member, Teaching Evaluation Committee
	Teaching Assistant Orientation and Training
1993–94	Member, Teaching Evaluation Committee
	Teaching Assistant Orientation and Training
1992–93	ITV Liaison
	Faculty Editor, Annual Report
1991–92	Member, Department Council
	Member, Teaching Evaluation Committee
	ITV Liaison
	Chair, Theory Field Committee
	Member, Comprehensive Examination Committee
	Member, Graduate Admissions Committee
1990–91	Member, Department Council

	Teaching Assistant Orientation and Training
	ITV Liaison
	Member, Comprehensive Exam Revision Committee
	Member, Undergraduate Studies Committee
1989–90	Teaching Assistant Orientation and Training
	Member, Laboratory Facilities Committee
1988–89	Faculty Editor, Annual Report
1987–88	Faculty Advisor for Student ACM Chapter
1986–87	Member, Graduate Admissions Committee
	Member, Department Council
1985–86	Member, Graduate Admissions Committee