

Biographical Information

1. Name: Piyush Kumar
2. Birth year and place: December, 1977, India.
3. Citizenship: India. United States Permanent Resident.
4. Research Interests: Computational Geometry, Optimization, Design and Analysis of Algorithms, Computer Graphics, Databases, Pattern Recognition and Machine Learning.
5. Academic Degrees
 - *Ph.D.*: Computer Science
Stony Brook University, NY (Aug 2004)
Thesis Title: Clustering and Reconstructing Large Data Sets.
 - *Master of Science*: Computer Science
Stony Brook University, NY (Aug 2003)
Thesis Title: Cache oblivious algorithms.
 - *Bachelor of Science*: Mathematics and Computing
Indian Institute of Technology (IIT), Kharagpur, India, 1999
Thesis Title: Simplifying polygonal approximations of 2D shapes.
6. Awards
 - *Air Force Office of Research Young Investigator Award*, 2010.
 - *Nominated for University Teaching Award*, FSU. 2009, 2010.
 - *FSU Innovator Award*. 2008.
 - *NSF CAREER Award*. Jan 2007.
 - *First Year Assistant Professor Award*, FSU. Summer 2005.
7. Academic Positions
 - Assistant Professor, Department of Computer Science, FSU. Aug 2004-Present.
 - Visiting Scientist, Max-Planck-Institut für Informatik (MPI), Germany. 2001-2002.
8. Other Professional Positions
 - Project Assistant, TDM-CNIA, IIT Kharagpur. India. 1996-1999.
 - Part time programmer, ArtWork Inc. USA. Spring 1999.
 - Summer Internship, Tata Institute of Fundamental Research. India. 1999.
9. Professional society memberships: ACM Lifetime Member.

Research & Creative Activity

Refereed Publications

Journal Articles

1. *Fast Construction of k -Nearest Neighbor Graphs for Point Clouds*. **M.Connor*** and P. Kumar. Invited and Accepted to IEEE Transactions of Visualization of Computer Graphics. 2010.
2. *Almost optimal solutions to k -clustering problems*. **P.Kumar** and P.Kumar. Accepted to International Journal of Computational Geometry and Applications, 2010.
3. *A Core Set Result for the Weighted Euclidean One-Center Problem*. P. Kumar and A. Yıldırım. Accepted to Informs Journal on Computing, 2009; 0: ijoc.1080.0315v1-ijoc.1080.0315.
4. *Computing Minimum Volume Enclosing Axis-Aligned Ellipsoids*. P. Kumar and A. Yıldırım. Journal of Optimization theory and Applications, Pages: 211-228, Vol 136, No 2, 2008.
5. *New complexity bounds for minimum volume enclosing ellipsoid problem*. P. Kumar and E.A. Yıldırım. Journal of Optimization Theory and Applications. Pages: 1 - 21, Vol 126, No. 1, July 2005. [31 Citations, Google Scholar]

6. *Curve reconstruction from noisy samples*. S.W. Cheng, S. Funke, M. Golin, P. Kumar, S-H. Poon, E.A. Ramos. (Invited and Accepted to special issue of Computational Geometry Theory and Applications (CGTA). Pages: 63 - 100, Vol. 31, Issue 1-2, May 2005. [11 Citations, Google Scholar]
7. *Approximate Minimum Enclosing. Balls in High Dimensions Using Core-Sets*. P. Kumar, E.A. Yildirim and J.S.B. Mitchell. Invited and Accepted to Journal of Experimental Algorithmics, ACM. Volume 8. 2003. [47 Citations, Google Scholar]

Conference Articles

8. Nearest Neighbor Searching in the Plane. with **M.Connor***. Accepted to Symposium on Experimental Algorithms, Napoli, Italy. May 2010.
9. Geometric Minimum Spanning Trees with GeoFilterKruskal. with **S.Chatterjee*** and **M.Connor***. Accepted to Symposium on Experimental Algorithms, Napoli, Italy. May 2010.
10. *Accurate Localization of RFID Tags Using Phase Difference*. C.H.Williams, B. Grant, X. Liu, Z. Zhang and P. Kumar. Accepted to IEEE RFID 2010.
11. *K Nearest Neighbor Queries and KNN-Joins in Large Relational Databases (Almost) for Free*. Bin Yao, F. Li and P. Kumar. Accepted to 26th International Conference on Data Engineering, 2010.
12. *Parallel construction of k-nearest neighbor graphs for point clouds*. **M.Connor*** and P. Kumar, Appeared in Proceedings of Point Based Graphics, 2008. Invited to IEEE Transactions on Visualization and Computer Graphics, 2009.
13. *Reverse Furthest Neighbors in Spatial Databases*. **Bin Yao**, Feifei Li and P. Kumar, Appeared in 25th International Conference on Data Engineering, Shanghai, China. Pages: 664-675, March 2009.
14. *On finding large empty convex bodies in 3D scenes of polygonal models*. U.Chebrolu, P. Kumar and J.S.B.Mitchell, Appeared in Selected papers of the Sixth International Conference on Computational Science and Applications, IEEE CS, Perugia, Italy. Pages: 382-393, June 2008.
15. *A note on Approximate Minimum Volume Enclosing Ellipsoid of Ellipsoids*. S.Jambawalikar and P. Kumar, Appeared in Selected papers of the Sixth International Conference on Computational Science and Applications, IEEE CS, Perugia, Italy. Pages: 478-490, June 2008.
16. *Projective clustering and its application to surface reconstruction: extended abstract*. **A. Mhatre*** and P. Kumar, Appeared in Proceedings of the twenty-second annual Symposium on Computational geometry. 477-478, 2006.
17. *Finding large sticks and potatoes in polygons*. **A. Sityon**, O. Hall-Holt, M. Katz, P. Kumar and J.S.B. Mitchell. Appeared in Proceedings of the 17th Annual ACM-SIAM Symposium on Discrete Algorithms. Pages: 474 - 483, 2006. Acceptance Rate: 32%.
18. *Hand recognition using geometric classifiers*. **Y. Bulatov**, S. Sethia, **S. Jambawalikar** and P. Kumar. Best Paper Award in the Theory/Graphics session at Stony Brook's Graduate Research Conference, 2003. In Proceedings of International Conference on Biometric Authentication, LNCS 3072, Pages 753-759. Springer Verlag, 2004. [40 Citations, Google Scholar]
19. *Computing core-sets and approximate smallest enclosing hyperspheres in high dimensions*. P. Kumar, E.A. Yildirim and J.S.B. Mitchell. Appeared in Proceedings of the Fifth Workshop on Algorithm Engineering and Experiments, Baltimore, MD, USA. Pages: 45 - 55, 2003. [19 Citations, Google Scholar]
20. *Curve reconstruction from noisy samples*. S.W. Cheng, S. Funke, M. Golin, P. Kumar, **S-H. Poon** and E.A. Ramos. Appeared in ACM Symposium on Computational Geometry, Pages: 302 - 311, 2003. Acceptance Rate: 36%. [11 Citations, Google Scholar]

21. *A simple provable algorithm for curve reconstruction*. T.K. Dey and P. Kumar. Appeared in Proceedings of ACM-SIAM Symposium on Discrete Algorithms, Pages: 893 - 894, 1999. [74 Citations, Google Scholar]

Color Coding: Author names marked in **Red** indicates student names. A superscript *, for example **A.Mhatre*** indicates my own student.

Workshop Short Papers (2 pages)

22. Implementing a parallel dynamic approximate nearest neighbor search algorithm. with **M. Connor***. (Preliminary version appeared in Computational Geometry Fall Workshop 2007, IBM T.J. Watson Research Center, Hawthorne, NY).
23. Surface Reconstruction and normal estimation using projective clustering. with **A. Mhatre***. (Preliminary version appeared in Computational Geometry Fall Workshop 2006, Smith College, NY).
24. Computing Minimum Volume Enclosing Axis-Aligned Ellipsoids. with A. Yildirim. (Preliminary version appeared in Computational Geometry Fall Workshop 2006, Smith College, NY).
25. *Reviver: a practical provable surface reconstructor*. Stony Brook, 2001. (Preliminary version appeared in Computational Geometry Fall Workshop 2000, Brooklyn Polytechnic, NY).

Book Chapter

26. *Cache oblivious algorithms*. In *Algorithms for Memory Hierarchies*, Editors: U. Meyer, P. Sanders, J.F. Sibeyn. LNCS 2625, Pages: 193 - 212, Springer-Verlag, 2003. [4 Citations, ScholarOne]

Book Reviews: [5 Book reviews](#) published in ACM Computing Reviews.

- *3D Game Engine Design: A Practical Approach to Real-Time Computer Graphics*. By David H. Eberly
- *Lectures on Discrete Geometry*. By Jiri Matousek.
- *Handbook of Computational Geometry* Edited by J.-R.Sack and J.Urrutia
- *A Generative Theory of Shape* By Michael Leyton. Edited by G.Goos, J.Hartmanis, and J.van Leeuwen
- *Lectures on Modern Convex Optimization Analysis, Algorithms, and Engineering Applications* By Ahron Ben-Tal and Arkadi Nemirovski

Reviews (Past 3 years):

- *Journal Reviews:*
 - (a) Journal of the ACM
 - (b) Computational Geometry Theory and Applications
 - (c) Discrete Applied Mathematics
 - (d) IEEE Transactions on Image Processing,
 - (e) IEEE Transactions on Pattern Recognition and Image Processing
 - (f) IEEE Transactions on Visualization and Computer Graphics
 - (g) Journal of Algorithms
 - (h) Journal of Electronic Imaging
 - (i) Journal of Discrete Algorithms
 - (j) Computer Aided Geometric Design
 - (k) ACM Computing Reviews
 - (l) Optimization
- *Conference Reviews:*
 - (a) ACM-SIAM Symposium on Discrete Algorithms
 - (b) ACM Symposium on Computational Geometry

- (c) IEEE Visualization
- (d) Eurographics
- (e) Europar
- (f) Symposium on Experimental Algorithmics
- (g) Workshop on Experimental Algorithmics
- (h) Point Based Graphics
- *Program Committees:*
 - (a) Point Based Graphics, 2007.
 - (b) Point Based Graphics, 2008.
 - (c) ALENEX 2008: Workshop on Algorithm Engineering and Experiments.
 - (d) IC3-2010.
- *NSF Panels:*
 - (a) NSF Panel, Washington DC, 2007.
- *Funding Agency Reviews:*
 - (a) US-Israel Binational Science Foundation.

Submitted Papers

27. A Linearly Convergent Algorithm for Support Vector Classification with a Core-set Result. with Alper Yilidirim. Submitted to INFORMS Journal of Computing, March 2009.
28. Group Enclosing Queries. with Feifei Li and Bin Yao. Submitted to IEEE Transactions on Knowledge and Data Engineering.

Under Preparation

29. *Cache oblivious delaunay triangulations.* with Edgar A. Ramos(UIUC). [3 Citations, ScholarOne]
30. Do Search Engines lie about hit counts? To be Submitted, 2009.

Technical Reports/Other Work/Workshop Publications

31. *Simplifying Polygonal approximations of 2D Shapes.* B.Sc. Thesis, IIT Kharagpur, 1999. (A preliminary version of this work was accepted in Shape Modelling, Aizu, 1999)
32. *A Simple polygon triangulation algorithm.* with Prof. Subir Kumar Ghosh. Technical Report, Tata Institute of Fundamental Research, Mumbai, India. [Non-refereed]

Software

33. STANN: A simple threaded approximate nearest neighbor library for C++. <http://www.compgeom.com/~stann>. 2007
34. Minimum Enclosing Ball: A MATLAB code that computes the minimum enclosing ball of a given set of points. <http://www.compgeom.com/meb/>. 2003
35. Reviver: A practical provable reconstructor. Ongoing effort. <http://www.ams.sunysb.edu/~piyush/reviver/>
36. Proteominer: A Tool to mine diseases from MALDI-TOF data. Copyright application pending. (With researchers at University of Stony Brook). <http://www.ams.sunysb.edu/~kpradhan/proteoManual>
37. Finding large empty Ellipses <http://www.compgeom.com/~piyush/potato/>. 2005

Patents filed.

- (a) System and methods for implementing parallel dynamic approximate nearest neighbor search algorithm. U.S. Provisional Application No. 60/986,713, filed on November 9, 2007.

Talks

- (a) Oak Ridge National Labs, June 2009.
- (b) International Conference on Computational Science and Its Applications, July 2008:
 - i. A note on Approximate Minimum Volume Enclosing Ellipsoid of Ellipsoids.
 - ii. On finding large empty convex bodies in 3D scenes of polygonal models.
- (c) Stony Brook University, May 2008.
- (d) European Conference on Operations Research, Prague, July 2007.
- (e) Joint EUROPT-OMS Meeting, Prague, July 2007.
- (f) Department of Computer Science, Brooklyn Polytechnic, NY. Mar 2007.
- (g) Department of Computer Science, SUNY Binghamton, Nov 2006.
- (h) Fall workshop on Computational Geometry, Smith College, NY, Nov 2006.
- (i) IBM Research, New Delhi, India. May 2006.
- (j) Symposium on Discrete Algorithms, Miami, FL. Jan 2006.
- (k) Workshop on Mathematical Programming in Data Mining and Machine Learning, Hamilton, CA. (June, 2005).
- (l) University of Texas, Dallas. Apr 2005.
- (m) DIMACS Workshops on (2003):
 - i. Geometric Optimization: Approximation Algorithms for k-Center Clustering.
 - ii. Computational Geometry: Hand Recognition Using Geometric Classifiers.
- (n) GI-Dagstuhl-Forschungsseminar, 02: Cache Oblivious Algorithms. (Sponsor: Dagstuhl Computer Science Foundation and MPI Saarbruecken)
- (o) MPI-Saarbrücken, 02: Cache Oblivious Algorithms. (Sponsor: MPI)
- (p) Fall Workshop in Computational Geometry, 00: Reviver (Sponsor: DIMACS)
- (q) FSU: Clustering and Reconstructing large data sets. (Sponsor: FSU, 2004)
- (r) University of Mississippi: Clustering and Reconstructing large data sets. (Sponsor: University of Mississippi, 2004)

- (s) *Conference Session Chair*: ACM-SIAM Symposium on Discrete Algorithms, Baltimore, 2003. (Sponsor: SUNY Stony Brook). ALENEX 2009.

Citations: I estimate that the total number of refereed papers that cite my papers is over 200 (My top 5 cited papers using google scholar yields more than 200 citations, hence 200 is a good lower bound).

Research Grants

- i. Source: Air Force Office of Research Award. Title: Geometric Clustering and it's Applications.
Tenure: 04/2010–04/2013
PI: Piyush Kumar.
Amount: \$360,000.
Acceptance Rate: Only 38 scientists awarded across the nation.
- ii. Source: NSF CAREER Award. Title: Core Sets for Geometric Optimization and its applications.
Tenure: 01/2007–01/2011
PI: Piyush Kumar.
Amount: \$400,000.
Acceptance Rate for the year 06-07 in Computer Science: 15% out of 300+ applicants.

- iii. Source: AMD. Hardware Endowment: 32-core AMD Workstation with 128GB RAM.
Purpose: Multicore Geometric Algorithms Research
Date: March 2009.
Amount : \$ 24,000+.
- iv. Source: FAMU Title: Robot Motion Planning
Tenure: 5/2009–12/2009 PI: Piyush Kumar. (Subcontract from Emmanuel Collins,
Department of Mechanical Engg., FSU-FAMU School of Engg.)
Amount : \$ 44,000+.
- v. COFRS Grant, Source: FSU
Tenure: Summer 2009
Purpose: Geometric Clustering and its applications.
PI: Piyush Kumar.
Amount: \$14,000.
- vi. Planning Grant, Source: FSU
Tenure: 12/01/2006–11/30/2007.
Purpose: A prototype system for constructing Annotated 3D Maps from Images and
LIDAR.
PI: Xiuwen Liu. Co-PI: Piyush Kumar.
Amount: \$12,000.00
- vii. Planning Grant, Source: FSU
Tenure: 12/01/2005–11/30/2006.
Purpose: Advance research on accurate surface reconstruction algorithms.
PI: Piyush Kumar.
Amount: \$10,000.00
- viii. Source: NCSA. Title. Normal estimation of large point clouds
Tenure: 12/2005–12/2006
Purpose: Use of shared memory supercomputers for algorithm design.
PI: Piyush Kumar.
Award: 10000 hours on a SGI Altix with 1024 Intel Itanium processors.
- ix. First-Year Assistant Professor Award, Source: FSU
Tenure: 05/09/2005–08/05/2006.
Purpose: Support initial research of newly recruited faculty.
PI: Piyush Kumar.
Amount: \$14,000.00
- x. Provost's Faculty Travel Grant, 2006. Source: FSU. Amount: \$500.
- xi. Funding Agency Travel Grant, 2004. Source: FSU. Amount: \$500.
- xii. ORAU Visiting Industrial Scholar Program, 2005.
Source: Oak Ridge Associated Universities. Amount: \$600.
- xiii. NASA Undergraduate fellowship for summer, 2006.
Source: NASA. Amount: \$3000.

Pending Grants

- xiv. Source: NSF: Title: III:Small:Efficient Similarity Search for Large Databases on Emerging Architectures
Tenure: 06/2010–06/2013
PI: Feifei Li
Amount: \$499,995.

Computer Skills

Languages: Python, C++, C, Matlab, Html, Pascal, Fortran, Prolog, Basic, XBase, VB.
Tools: Latex, Bison, Flex, Maya, 3D-Max, Autocad, PovRay, CorelDraw, HomeSite, Office.
Libraries: CGAL, LEDA, STL, OpenGL, Inventor, Motif, WxWindows, TPIE, Atlas.
Operating Systems: Unix/Linux, Windows/Cygwin, Novell Netware.

Teaching

Courses Taught: Algorithms, Advanced Algorithms, Computational Geometry, Object oriented programming using C++. Writing Solid Code. Advanced Computational Geometry.

Teaching Webpage: <http://www.cs.fsu.edu/~piyush/teach/>

Spring 2010

COP 4531: Design and Analysis of Algorithms. (Students 19)

CGS 5427: Design and Analysis of Algorithms. (Students 4)

Webpage: <http://www.cs.fsu.edu/~piyush/teach/4531/index.html>

I redesigned the homeworks and put a new programming project based on census data and inversions this year. The homeworks had to be completely redone because the solutions of the textbook have now become online.

CIS 6935: Algorithms Research Seminar. (Students 4)

We presented recent papers in Algorithms in this seminar.

Fall 2009

COT 5405: Advanced Algorithms. (Students 23)

Webpage: <http://www.cs.fsu.edu/~piyush/teach/AA09/index.html>

There were new topics added this time including Google Page Rank Algorithm and PRAM algorithms.

Spring 2009

CIS 5930: Computational Geometry. (Students 13)

Webpage: <http://www.cs.fsu.edu/~piyush/teach/5930/index.html>

I redesigned the webpage for this class. I covered more advanced material compared to last time I taught this class, since I had more advanced students this year. The first programming assignment involved computing convex hulls on multi-core CPUs, which are becoming predominant in mainstream computing.

Fall 2008

CIS 6935: Computational Geometry Seminar. (Students 11)

Webpage: <http://www.cs.fsu.edu/~piyush/teach/cgseminar08/index.html>

This is the first time that I offered a seminar on computational geometry in FSU. The students prepared most of the talks on real world applications of Computational Geometry. The talks were attended by a few faculty in the department and graduate students.

COP 4531: Analysis of algorithms. (Students 9)

CGS 5427: Analysis of algorithms. (Students 6)

Webpage: <http://www.cs.fsu.edu/~piyush/teach/4531/index.html>

This is the first time I designed a class project for this class. This project involved reading a real Tallahassee map, and the locations of k people on the map, and computing the place on the map where they should meet such that the total fuel consumed by all the people is minimum over all meeting points. The project was very well received, and the groups working on the project increased the algorithmic thinking process of the students.

Spring 2008

COP 4531: Design and Analysis of Algorithms. (Students 46)

Webpage: <http://www.compgeom.com/~piyush/teach/>

Writing Solid Code. (Students 3)

Webpage: <http://www.compgeom.com/~piyush/teach/>

This is the first time that I was running a seminar where students as well as me present topics new to the programming world. We covered a few exciting technologies/languages in the course including Nvidia's CUDA, Python, Haskell, Matlab, Test Driven Development, Design Patterns, Google's MapReduce, OpenMP etc.

Fall 2007

COT 5405: Advanced Algorithms. (Students 20)

Webpage: <http://www.compgeom.com/~piyush/teach/AA07/index.html>

Spring 2007

CSE 638/AMS 641: Computational Geometry. (Students 12)

Webpage: <http://www.compgeom.com/~piyush/teach/5930/index.html>

Fall 2006

COP 3330: Object oriented programming (using C++). (Students 26)

Webpage: <http://www.compgeom.com/~piyush/teach/3330/index.html>

This is the first time that I was teaching this course. I changed the text book of the course to C++ Primer by Lippman et.al. I prepared a set of new slides for this course, mainly borrowing material from the textbook, Design Patterns by Gamma et.al., C++ coding standards by Sutter et.al., Applied C++ by Romanik et.al. and many other standard and advanced C++ texts. I also prepared a set of challenging programming assignments for the course. Googling for C++ Lecture Slides brings up the course lecture slides which gets a lot of hits from many countries today.

Spring 2006

COP 4531/5427: Analysis of Algorithms. (Students 27)

Webpage: <http://www.compgeom.com/~piyush/teach/4531/index.html>

This is the first time that I was teaching this course with the new text by Klienber and Tardos. I prepared a set of new lecture slides (and updated some of my old slides), homeworks and programming assignments for the course which are available through the course web page. I also prepared a set of interesting projects for the course that introduced the students to implementation of challenging algorithms and data structures.

Fall 2005

CIS 5405: Advanced Algorithms. (Students 26)

Webpage: <http://www.cs.fsu.edu/~piyush/teach/AA05/index.html>

This is the first time that I was teaching advanced algorithms. I have taught algorithms at an undergraduate level before using the standard CLR text which I decided to change for this course. I prepared a set of new lecture slides, homeworks and programming assignments for the course which are available through the course web page. I also prepared a set of interesting projects for the course that introduced the students to implementation of challenging algorithms and data structures.

Spring 2005

CIS 5930: Computational geometry. (Students 5)

Webpage: <http://www.cs.fsu.edu/~piyush/teach/5930/index.html>

This is the first time that a computational geometry course was being offered at the department. This is also the first time that I was teaching this course. I prepared a set of new lecture slides, homeworks and programming assignments for the course which are available through the course web page.

Fall 2004

CIS 6935: Topics in algorithms. (Students 3)

Webpage: <http://www.cs.fsu.edu/~piyush/teach/rg/index.html>

This is the first time that I offered a seminar on advanced topics in algorithms. I prepared most of the talks on real world applications of algorithms. The talks were attended by a few faculty in the department and graduate students.

COP 4531: Analysis of algorithms. (Students 15)

CGS 5427: Analysis of algorithms. (Students 7)

Webpage: <http://www.cs.fsu.edu/~piyush/teach/4531/index.html>

This is the first time I was teaching algorithms at Florida State University to a class which was cross listed for both undergraduate and graduate students. I prepared new set of slides and lecture notes for this course. I also added a new programming assignment to the course (on cache oblivious matrix multiplication). I plan to develop a set of lecture notes and slides for this course that I could improve upon every year for teaching this course. The lecture notes, slides and programming project are on the course web page.

Spring 2004

CSE 638/AMS 641: Advanced Computational Geometry. (Students 12)

I co-taught this class with Dr. Joe Mitchell from Stony Brook University, Dr. Matya Katz from Ben-Gurion University and Dr. Olaf Hall-Holt, a Post-Doctoral Fellow at Stony Brook. All four of us took turns to present advanced material on Computational Geometry.

Fall 2003

CSE/AMS/MAT 373/CSE 548: Design and Analysis of Algorithms. (Students 85)

Webpage: <http://www.ams.sunysb.edu/~piyush/teach/373/index.html>

This is the first time that I taught Algorithms at Stony Brook University. In fact, this is the first time I taught an entire lecture.

Training

Graduate Student (Current Advising and Support)

All my graduate students are associated with the Department of Computer Science.

Michael Connor, (current) Ph.D. candidate.

James McClain, (current) Ph.D. candidate, GAANN Fellow.

Samidh Chatterjee, (current) Ph.D. candidate.

Tathagata Mukherjee, (current) Ph.D. candidate.

Tomas Mann, (current) M.S. candidate.

Graduated Students (Advisor: Piyush Kumar)

Amit Mhatre, M.S. 2005, Department of Computer Science (with Thesis).

Micah Villmow, M.S. 2006, Department of Computer Science (with Project).

– Now at AMD. Previously with ATI.

Polina Volkova, M.S. 2009, Department of Computer Science (with Thesis).

Current Graduate Student Committees

Yanan Yu (current) Ph.D. candidate, Department of Computer Science.

Zhenyu Lu (current) Ph.D. candidate, Department of Computer Science.

Dunlap, Damion (current) Ph.D. candidate, FAMU-FSU School of Engineering.

Zhu, Yuhua (current) Ph.D. candidate, FSU Department of Computer Science.

Bin, Yao (current) Ph.D. candidate, FSU Department of Computer Science.

Wu, Yiming (current) Ph.D. candidate, FSU Department of Computer Science.

Donate, Arturo (current) Ph.D. candidate, FSU Department of Computer Science.

Graduated Students (Committee member: Piyush Kumar)

[Stephen Roderick Hines](#) Ph.D. 2008, Department of Computer Science.
Advisor: David Whalley and Gary Tyson.

Niraj Pandey M.S. 2008, Department of Computer Science (Project).
Advisor: Michael Mascagni.

Ryan Fishel M.S. 2008, Department of Computer Science (Project).
Advisor: Andy Wang.

Vinod Akula M.S. 2007, Department of Computer Science (with Thesis).
Advisor: Breno De Medeiros.

Jasbinder Bali, M.S. 2007, Department of Computer Science (with Thesis).
Advisor: Sudhir Aggarwal.

Thomas Asbury, Ph.D. 2005, Department of Molecular Biophysics.
Advisor: Richard Bertram.
Representative-at-large: Piyush Kumar.

Lee Singleton, Ph.D. 2007, Department of Mathematics.
Advisor: Monica K. Hurdal.
Representative-at-large: Piyush Kumar.

Aaron Shumaker, B.S. 2005, Department of Computer Science (with Thesis).

Jingyuan Ren, M.S. 2006, Department of Computer Science (with Thesis).
Advisor: Michael Mascagni.

Justin Floyd Christofoli, M.S. 2006, Department of Computer Science (with Thesis).
Advisor: Sudhir Aggarwal.

Michael Smith, M.S. 2006, Department of Computer Science (with Thesis).
Advisor: Daniel Schwartz.

Service

- **FSU: Department of Computer Science:**
 - **2006-Current:** ACM Faculty Representative for the FSU ACM Chapter.

I manage the organization of various events like programming competitions, graduate research conference, invited talks for and from students, and the departmental picnic. I also tutor and take the students for the regional ACM programming competition. We have been to the following campuses for the regional programming contest in the past:

- * University of South Alabama, Mobile, AL. Oct 27-29th, 2006.
 - * Florida Institute of Technology, Melbourne, FL. Oct 12-14, 2007.
 - * Armstrong Atlantic State University, Savannah, GA. Oct 24-26th, 2008.
- **2009-2010:** PhD portfolio Committee.
 - **2008-2009:** PhD portfolio Committee.
 - **2008-2009:** Faculty Evaluation Committee.
 - **2007-2008:** Admissions Committee.
 - **2007-2008:** PhD portfolio Committee.
 - **2006-2007:** Admissions Committee.
 - **2005-2006:** PhD portfolio Committee.
 - **2004-2005:** Admissions Committee, Graduate Curriculum Committee.

- **Invited Research Visits:**

- Air Force Office of Research, VA. April 2010.
- Stony Brook University, NY. April 2010.
- Polytechnic Institute of New York University. NY, April 2010.
- Oak Ridge National Labs, Oak Ridge, TN. Jun 2009.
- Bilkent University, Ankara, Turkey. Jul 2008.
- IIT Delhi, New Delhi, India. May 2008.
- Stony Brook University, NY. May 2008.
- Brooklyn Polytechnic, NY. Mar 2007.
- NSF Optimization Panel, Washington. May 2007.
- SUNY Binghamton, NY. Nov 2006.
- University of Illinois at Urbana-Champaign, IL. July 2006.
- Stony Brook University, NY. July 2006.
- IBM Research, India. May 2006.
- University of North Carolina, Chapel Hill. Mar 2006.
- University of Waterloo, Canada. June 2005.
- State University of NY, Stony Brook. Feb 2005.
- University of Karlsruhe, Germany. Nov 2004.
- Metris Corporation, Belgium. Nov 2004.
(Supported by FSU FAT Grant and Metris Corporation).
- Department of Computer Science, MIT, Boston. 2003.
- Workshop on Massive Data Sets, [BRICS](#), Aarhus. 2002.
- Seminar on Algorithms on Memory Hierarchies. [Dagstuhl](#), Germany. 2002.
- Department of Computer Science, Oregon State University, 2002.
- Department of Computer Science, Duke University, 2002.

- comp.graphics.algorithms FAQ Contributor

- **Hosted Visitors:**

- Belen Palop del Rio. March 2 to March 7th, 2009. Universidad de Valladolid, Spain.
- E.A. Yildirim. July 26 to Aug 11, 2007. Bilkent University, Ankara, Turkey.
- Amit Chourasia. Nov 17-21, 2006. San Diego Super Computing Center.
- Sachin Jambawalikar. Aug 4-10, 2006. Stony Brook University.
- Edgar Ramos. April 15-19, 2006. University of Illinois at Urbana-Champaign.
- Michael Gourlay. 2006. EA.
- Suresh Venkatasubramanian. 2005. AT&T Labs.
- Alper Ungor. 2005. University of Florida.

- **Group Memberships:**

- [FSU compustat Group Member](#).
- [FSU Database Group Member](#).

- **Google Keywords:** These keywords when entered in google lead to one of my webpages (on page one of the search).

- [Surface Reconstruction](#) , [Computational Geometry Lecture Slides](#) , [C++ Lecture](#) , [C++ Lecture Slides](#) , [k-center clustering](#) , [Minimum Enclosing Ball](#) , [C++ Delaunay Triangulation](#) , [Core-Sets](#) , [Cache oblivious algorithms](#) , [Algorithms for surface reconstruction](#).