

Christos Boutsidis

Contact Information	Work address Computer Science Department Rensselaer Polytechnic Institute 110 8-th Street Troy, New York, 12180, USA	Office room: Amos Eaton 112 Office phone: +1 (518) 276-3080 Mobile: +1 (518) 268-9546 E-mail: boutsc@cs.rpi.edu Web: www.cs.rpi.edu/~boutscl/
Personal Information	First Name: Christos Last Name: Boutsidis	Place of Birth: Serres, Greece Date of Birth: August 9, 1983
Education	Rensselaer Polytechnic Institute PhD Student in Computer Science Advisor: Petros Drineas	2006 - present
	University of Patras, GREECE BS in Computer Science and Engineering Thesis Advisor: Efstratios Gallopoulos	2001 - 2006
Research Summary	I am focusing on the algorithmic aspects and the theoretical foundations of (i) Linear Algebra, (ii) Mathematical Programming, and (iii) Probability Theory, such that to be able to solve practical problems that arise in Machine Learning and Data Mining.	
Work/Research Experience	Research Assistant Computer Science Department Rensselaer Polytechnic Institute	Aug 2006 - Aug 2007
	Teaching Assistant Computer Science Department Rensselaer Polytechnic Institute	Aug 2007 - May 2008
	Research Intern Service Engineering Department IBM T.J. Watson Research Center	May 2008 - Aug 2008
	Research Fellow Institute for Pure and Applied Mathematics (IPAM) University of California, Los Angeles (UCLA)	Sep 2008 - Dec 2008
Publications	An Improved Approximation Algorithm for the Column Subset Selection Problem C. Boutsidis, M.W. Mahoney, and P. Drineas ACM-SIAM Symposium on Discrete Algorithms (SODA) New York, New York, USA, January 4-6, 2009	
	Clustered Subset Selection and its Applications on IT Service Metrics C. Boutsidis, J. Sun, and N. Anerousis ACM Conference on Information and Knowledge Management (CIKM) Napa Valley, California, USA, October 26-30, 2008	
	Unsupervised Feature Selection for Principal Components Analysis C. Boutsidis, M.W. Mahoney, and P. Drineas ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD) Las Vegas, USA, Aug. 24-27, 2008	
	SVD-based initialization: A head start on nonnegative matrix factorization C. Boutsidis and E. Gallopoulos Pattern Recognition, 41(4), pp. 1350-1362, April 2008	

- In preparation** **An Improved Approximation Algorithm for the Column Subset Selection Problem**
C. Boutsidis, M.W. Mahoney, and P. Drineas
submitted, SIAM J. of Matrix Analysis and Applications (SIMAX), Oct 2008
- A Random Projection Algorithm for the Nonnegative Least Squares Problem**
C. Boutsidis and P. Drineas
submitted, SIAM Workshop on Algorithm Engineering and Experiment (ALENEX), Oct 2008
- An Algorithm for Clustering Numerical Data with Extra Categorical Information**
C. Boutsidis, J. Sun, and N. Anerousis
to be submitted to SIAM Conference on Data Mining (SDM), Oct 2008
- Clustered Subset Selection and its Applications on IT Service Metrics**
C. Boutsidis, J. Sun, N. Anerousis, and P. Drineas
to be submitted to ACM Transactions on Knowledge Discovery from Data, 2008
- Presentations** **An Improved Approximation Algorithm for the Column Subset Selection Problem**
(Public Talks)
 - ACM-SIAM Symposium on Discrete Algorithms (SODA), New York, NY, January 2009
 - Workshop I: Multiscale Representation, Analysis and Modeling of Internet Data and Measurement IPAM, UCLA, CA, Sept 2008 (poster)
 - Workshop on Algorithms for Modern Massive Datasets (MMDS) Stanford, CA, June 25-28, 2008 (poster)
 - SIAM Conference on Optimization, Boston, MA, May 10-13, 2008 (poster)
 - Theory Seminar, Computer Science Department, RPI, Troy, NY, Feb 13, 2008
 - 4th Montreal Scientific Computing Days, Centre de Recherches Mathematiques Universite de Montreal, Montreal, Canada, April 16-17, 2007
- Clustered Subset Selection and its Applications on IT Service Metrics**
 - ACM Conference on Information and Knowledge Management (CIKM) Napa Valley, CA, October 26-30, 2008
- Automatic Summary and Insight on IT Service Metric Monitoring**
 - IBM T.J. Watson Research Lab, Hawthorne, NY, August 14, 2008
- Effective initializations for NMF algorithms**
 - SIAM Conference on Optimization, Boston, MA, May 10-13, 2008
 - Joint GAMM-SIAM Conference on Applied Linear Algebra Dusseldorf, Germany, July 24-27, 2006
- PALSIR: A new approach to Nonnegative Tensor Factorization**
 - Workshop on Algorithms for Modern Massive Datasets (MMDS), Stanford, CA, June 21-24, 2006 [poster]
- Patents** **Method and Apparatus for Automatic Summary and Insight on Data Matrices**
with J. Sun and N. Anerousis (IBM internal YOR8-2008-0836)
- Method for clustering numerical data with extra categorical information**
with J. Sun, and N. Anerousis (IBM internal YOR8-2008-0921)
- Honors/Awards** **2008** Travel award. 2nd Western Conference in Mathematical Finance. University of Texas at Austin, Austin, Texas, October 31 - November, 2008
- 2008** Travel award. ACM 17th Conference on Information and Knowledge Management. Napa Valley, California, October 31-30, 2008
- 2008:** Fellowship. IPAM (Institute for Pure and Applied Mathematics), University of California Los Angeles (UCLA), to participate in the program “Internet Multi-Resolution Analysis: Foundations, Applications and Practice”, Sept 8 - Dec 12, 2008.

2007: Travel award. IPAM (Institute for Pure and Applied Mathematics), University of California Los Angeles (UCLA), to attend “Mathematics of Knowledge and Search Engines, Workshops II: Numerical Tools and Fast Algorithms for Massive Data Mining, Search Engines and Applications”, October 22 - 26, 2007.

2007: Travel award. IPAM (Institute for Pure and Applied Mathematics), University of California Los Angeles (UCLA), to attend “Mathematics of Knowledge and Search Engines: Tutorials”, September 11 - 20, 2007.

2007: Travel award. IPAM (Institute for Pure and Applied Mathematics), University of California Los Angeles (UCLA), to attend “Short Course on Sparse Representations and High Dimensional Geometry”, May 30 - June 1, 2007

2006: Research Fellowship. Computer Science Department, University of Toronto, Fall 2006 (declined)

2006: College of Engineering Fellowship. In recognition of outstanding record and promise of excellent graduate studies. Computer Science Department, Penn State University, Fall 2006 (declined)

2005: Scholarship. Scholarships Institute “Agios Maximos o Omologitis”, for excellent academic performance to the Department of Computer Engineering and Informatics of the University of Patras for the academic year 2004-2005.

Teaching Experience

Fall 2007: Teaching Assistant, Computability and Complexity (CSCI-6050/4050)
Computer Science Department, Rensselaer Polytechnic Institute
Instructor: Prof. Mark Goldberg
Duties: Teaching (occasionally), proctoring exams, grading, holding office hours

Spring 2008: Teaching Assistant, Models of Computation (CSCI 2400)
Computer Science Department, Rensselaer Polytechnic Institute
Instructor: Prof. Petros Drineas
Duties: Proctoring exams, grading, holding office hours

Society Membership

Computer Science Department, Rensselaer Polytechnic Institute
- Colloquium Committee (2006-2007)
- Graduate Admissions Committee (2008-2009)

SIAM, member since 2006

- SIAM Activity Group on Linear Algebra, member since 2006
- SIAM Activity Group on Optimization, member since 2008
- SIAM Activity Group on Financial Mathematics, member since 2009

ACM, member since 2008

- Rensselaer ACM Student Chapter, member since 2007

Society Service

Reviewer (journals):

- ACM Transactions from Knowledge Discovery in Data
- IEEE Transactions on Knowledge and Data Engineering
- Computational Intelligence and Neuroscience

Reviewer (conferences):

- KDD 2006
- KDD 2007
- SDM 2008
- NIPS 2008

References

Petros Drineas, Assistant Professor, PhD advisor

Email: drinep@cs.rpi.edu

Phone: +1 (518) 276 8265

Address: Computer Science Department, Rensselaer Polytechnic Institute, Lally Hall, Room 317, 110 8th Street, Troy, NY 12180, USA

Efstratios Gallopoulos, Professor, undergraduate thesis advisor

Email: stratis@ceid.upatras.gr

Phone: +30 (261) 099 6911

Address: Department of Computer Engineering and Informatics, University of Patras, 26500 Patras, GREECE

Michael W. Mahoney, Senior Research Scientist, Yahoo! Research

Email: mahoney@yahoo-inc.com

Phone: +1 (408) 349-2734

Address: 701 First Avenue, Sunnyvale, CA, 94089-0703, USA

More references available upon request.

Last update on: October 1st, 2008