

# EVANGELOS E. PAPALEXAKIS

University of California Riverside  
Computer Science & Engineering Department  
355 Winston Chung Hall  
900 University Ave.  
Riverside, CA 92521, USA

Email: epapalex@cs.ucr.edu  
www: www.cs.ucr.edu/~epapalex  
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## POSITIONS

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- **University of California Riverside**, Riverside, CA (August 2016 - present)  
Assistant Professor at the CSE Department.
- **Carnegie Mellon University**, Pittsburgh, PA (September 2011 - August 2016)  
Graduate Researcher at the CS Department.
- **Google Research**, Mountain View, CA (May 2015 - August 2015)  
Software Engineering Intern at the Structured Data Group with Dr. Alon Halevy, Dr. Steven Whang, and Dr. Xiao Yu.
- **Microsoft Research - Silicon Valley**, Mountain View, CA (May 2014 - August 2014)  
Research Intern at the Search Labs with Dr. Rakesh Agrawal. My work was on social media based web search, and electronic education.
- **Microsoft Research - Silicon Valley**, Mountain View, CA (May 2013 - August 2013)  
Research Intern at the Interaction & Intent group with Dr. Ariel Fuxman and Dr. Ashok Chandra. My work was focused on Contextual Search.
- **Technical University of Crete**, Chania, Greece (May 2010 - August 2011)  
Graduate Researcher at the ECE department.

## EDUCATION

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- **Ph.D** in Computer Science  
**Carnegie Mellon University**, Computer Science Department, August 2011 - August 2016.  
Advisor: Prof. Christos Faloutsos.  
Thesis title: *Mining Large Multi-Aspect Data: Algorithms & Applications*  
Committee: Prof. Tom Mitchell, Prof. Nikos Sidiropoulos, Prof. Jeff Schneider.
- **M.Sc** in Electronic and Computer Engineering  
**Technical University of Crete**, Greece, March 2010 - July 2011 , Courses GPA: **9.625/10**  
Advisor: Prof. Nikos Sidiropoulos.  
Thesis title: *Co-clustering as multilinear decomposition with sparse latent factors*.  
Committee: Prof. Athanasios Liavas & Prof. Minos Garofalakis.
- **Diploma** in Electronic and Computer Engineering  
**Technical University of Crete**, Greece, September 2005 - February 2010 (4.5 out of 5 years)  
Grade: **9.05/10 (Excellent- in the top 2% of all the Department's graduates)**.  
Advisor: Prof. Nikos Sidiropoulos.  
Thesis title: *Reviewer Profiling Using Factor Analysis*.  
Committee: Prof. Athanasios Liavas & Prof. Minos Garofalakis.

## HONORS

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- Selected among the "20 rising stars" of the KDD community for 2016 by Microsoft Research Asia and Microsoft Academic Search.
- Best Student Paper Award at SIAM SDM 2016.
- Travel Award for the SIAM SDM 2016 Conference.
- Finalist for the Facebook PhD Fellowship 2015.
- Finalist for the Microsoft Research PhD Fellowship 2014 (29 out of 181 applications).
- Best student paper award (runner-up) at PAKDD 2014.

- Papers selected as “best of the conference” for ASONAM 2013, SDM 2014, WWW 2015 Web Science Track.
- Travel Award for the 2014 SIAM Conference on Parallel Processing for Scientific Computing (PP14).
- Performance Fellowship by the Technical University of Crete for the academic years 2005-2006, 2006-2007, 2007-2008 & 2008-2009 (top 10% of class).

## PUBLICATIONS

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No. citations: **628**

H-index: **16**

(source: <http://scholar.google.com/citations?user=2P1kinAAAAAJ&hl=en>, September 10, 2016)

### REFEREED CONFERENCE PUBLICATIONS

1. Evangelos E. Papalexakis, *Automatic Unsupervised Tensor Mining with Quality Assessment*, SIAM SDM 2016, Miami, FL  
*Best Student Paper Award*
2. Bryan Hooi, Hyun-Ah Song, Evangelos E. Papalexakis, Rakesh Agrawal, Christos Faloutsos, *Matrices, Compression, Learning Curves: formulation, and the GroupNTeach algorithms*, PAKDD 2016, Auckland, New Zealand
3. Evangelos E. Papalexakis, Konstantinos Pelechrinis, Christos Faloutsos, *Location Based Social Network Analysis Using Tensors and Signal Processing Tools*, IEEE CAMSAP 2015, Cancun, Mexico
4. Matt Gardner, Kejun Huang, Evangelos E. Papalexakis, Xiao Fu, Partha Pratim Talukdar, Christos Faloutsos, Nicholas D. Sidiropoulos, Tom Mitchell, *Translation Invariant Word Embeddings* EMNLP 2015, Lisbon, Portugal
5. Rakesh Agrawal, Behzad Golshan, Evangelos E. Papalexakis, *Whither Social Networks for Web Search?* ACM SIGKDD 2015, Industry Track, Sydney, Australia, NSW [authors in alphabetical order]
6. Rakesh Agrawal, Behzad Golshan, Evangelos E. Papalexakis, *A study of distinctiveness in web results of two search engines*, WWW 2015 Web Science Track, Florence, Italy [authors in alphabetical order]  
**Selected as one of the best papers of WWW 2015, Web Science Track**
7. Kejun Huang, Nicholas D. Sidiropoulos, Christos Faloutsos, Evangelos E. Papalexakis, Partha Pratim Talukdar, Tom Mitchell, *Principled Neuro-Functional Connectivity Discovery*, SIAM SDM 2015, Vancouver, Canada
8. Inah Jeon, Evangelos E. Papalexakis, U Kang, Christos Faloutsos, *HaTen2: Billion-scale Tensor Decompositions*, IEEE ICDE 2015, Seoul, Korea
9. Evangelos E. Papalexakis, Christos Faloutsos, *Fast Efficient and Scalable Core Consistency Diagnostic for the PARAFAC Decomposition for Big Sparse Tensors*, IEEE ICASSP 2015, Brisbane, Australia
10. Evangelos E. Papalexakis, Alona Fyshe, Nicholas Sidiropoulos, Partha Pratim Talukdar, Tom Mitchell, Christos Faloutsos, *Good-Enough Brain Model: Challenges, Algorithms and Discoveries in Multi-Subject Experiments*, ACM SIGKDD 2014, New York City, USA
11. Ching-Hao Mao, Chung-Jung Wu, Kuo-Chen Lee, Evangelos E. Papalexakis, Christos Faloutsos, *MalSpot: Multi<sup>2</sup> Malicious Network Behavior Patterns Analysis*, PAKDD 2014, Tainan, Taiwan
12. Miguel Araujo, Spiros Papadimitriou, Stephan Gunnemann, Christos Faloutsos, Prithwish Basu, Ananthram Swami, Evangelos E. Papalexakis, Danai Koutra, *Com2: Fast Automatic Discovery of Temporal (Comet) Communities*, PAKDD 2014, Tainan, Taiwan  
*Best student paper award (runner up)*
13. Spiros Papadimitriou, Evangelos E. Papalexakis, *Towards laws of the 3d-printable design web*, 2014 ACM conference on Web science (WebSci)  
**Best lightning talk award**
14. Nicholas Sidiropoulos, Evangelos E. Papalexakis, Christos Faloutsos, *A Parallel Algorithm for Big Tensor Decomposition Using Randomly Compressed Cubes (PARACOMP)*, ICASSP 2014, Florence, Italy
15. Evangelos E. Papalexakis, Tom Mitchell, Nicholas Sidiropoulos, Christos Faloutsos, Partha Pratim Talukdar, Brian Murphy, *Turbo-SMT: Accelerating Coupled Sparse Matrix-Tensor Factorizations by 200x*, SDM 2014, Philadelphia, PA, USA  
**Selected as one of the best papers of SDM 2014**
16. Alex Beutel, Abhimanu Kumar, Evangelos E. Papalexakis, Partha Pratim Talukdar, Christos Faloutsos, Eric Xing, *FlexiFact: Scalable Flexible Factorization of Coupled Tensors on Hadoop* SDM 2014, Philadelphia, PA, USA

17. Evangelos E. Papalexakis, Konstantinos Pelechrinis, Christos Faloutsos, *Spotting Misbehaviors in Location-based Social Networks using Tensors*, WWW 2014 Web Science Track (poster), Seoul, Korea
18. Ariel Fuxman, Ashok Chandra, Pradeep Chilakamarri, Michael Gamon, Bernhard Kohlmeir, Yuanhua Lv, Dhyanes Narayanan, Patrick Pantel, Evangelos E. Papalexakis, Bo Zhao, *Contextual Insights*, WWW 2014 (Poster Track), Seoul, Korea
19. Evangelos E. Papalexakis, Tudor Dumitras, Duen Horng (Polo) Chau, B. Aditya Prakash, Christos Faloutsos, *Spatio-temporal Mining of Software Adoption & Penetration*, ASONAM 2013, Niagara Falls, Canada, August 2013  
**Selected as one of the best papers of ASONAM 2013**
20. Evangelos E. Papalexakis, Leman Akoglu, Dino Ienco, *Do more Views of a Graph help? Community Detection and Clustering in Multi-Graphs*, Fusion 2013, Istanbul, Turkey
21. Misael Mongiovi, Petko Bogdanov, Razvan Ranca, Ambuj K. Singh, Evangelos E. Papalexakis, Christos Faloutsos, *NetSpot: Spotting Significant Anomalous Regions on Dynamic Networks*, SDM 2013, Austin, Texas, May 2013
22. Yasuko Matsubara, Lei Li, Evangelos E. Papalexakis, David Lo, Yasushi Sakurai, Christos Faloutsos, *F-Trail: Finding Patterns in Taxi Trajectories*, PAKDD 2013, Gold Coast, Queensland, Australia, April 2013
23. Danai Koutra, Evangelos E. Papalexakis, Christos Faloutsos, *TensorSplat: Spotting Latent Anomalies in Time*, PCI (16th Panhellenic Conference on Informatics with international participation), Piraeus, Greece, Oct. 2012
24. Evangelos E. Papalexakis, Christos Faloutsos, Nicholas D. Sidiropoulos, *ParCube: Sparse Parallelizable Tensor Decompositions*, European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases 2012 (ECML-PKDD), Bristol, United Kingdom.
25. Evangelos E. Papalexakis, Alex Beutel, Peter Steenkiste, *Network Anomaly Detection using Co-clustering*, IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining ASONAM 2012, Istanbul, Turkey
26. U Kang, Evangelos E. Papalexakis, Abhay Harpale, Christos Faloutsos, *GigaTensor: Scaling Tensor Analysis Up By 100 Times - Algorithms and Discoveries*, ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) 2012, Beijing, China
27. Evangelos E. Papalexakis, Nicholas D. Sidiropoulos *Co-clustering as Multilinear Decomposition with Sparse Latent Factors*, IEEE ICASSP 2011, Prague, Czech Republic

## REFEREED JOURNAL PUBLICATIONS

1. Evangelos E. Papalexakis, Tom Mitchell, Nicholas Sidiropoulos, Christos Faloutsos, Partha Pratim Talukdar, Brian Murphy, *Turbo-SMT: Parallel Coupled Sparse Matrix-Tensor Factorizations and Applications*, Statistical Analysis and Data Mining (Best of SDM 2014 Special Issue Pt. 2) [Under Publication]
2. Rakesh Agrawal, Behzad Golshan, Evangelos E. Papalexakis, *Overlap in the Web Search Results of Google and Bing*, The Journal of Web Science (invited as one of the best papers of WWW'15 Web Science Track)
3. Evangelos E. Papalexakis, Bryan Hooi, Konstantinos Pelechrinis, Christos Faloutsos, *Power-Hop: A Pervasive Observation for Real Complex Networks*, PLoS ONE 11(3)
4. Evangelos E. Papalexakis, Christos Faloutsos, Nicholas D. Sidiropoulos, *ParCube: Sparse Parallelizable CANDECOMP-PARAFAC Tensor Decomposition*, ACM Transactions on Knowledge Discovery from Data, 2015
5. Evangelos E. Papalexakis, Tudor Dumitras, Duen Horng (Polo) Chau, B. Aditya Prakash, Christos Faloutsos, *SharkFin: Spatio-temporal Mining of Software Adoption & Penetration*, Social Network Analysis and Mining (SNAM), Springer, December 2014
6. Evangelos E. Papalexakis, Alona Fyshe, Nicholas Sidiropoulos, Partha Pratim Talukdar, Tom Mitchell, Christos Faloutsos, *Good-Enough Brain Model: Challenges, Algorithms and Discoveries in Multi-Subject Experiments*, Big Data Journal, December 2014
7. Evrim Acar, Evangelos E. Papalexakis, Gozde Gurdeniz, M. Rasmussen, A. J. Lawaetz, M. Nilsson, Rasmus Bro, *Structure-Revealing Data Fusion*, BMC Bioinformatics, 2014
8. Nicholas D. Sidiropoulos, Evangelos E. Papalexakis, Christos Faloutsos, *PARallel RANdomly COMPRESSED Cubes (PARACOMP): A Scalable Distributed Architecture for Big Tensor Decomposition*, IEEE Signal Processing Magazine, Special Issue on Signal Processing for Big Data, 2014
9. Evangelos E. Papalexakis, Nicholas D. Sidiropoulos, Rasmus Bro, *From K-means to higher-way co-clustering: Multilinear Decomposition with Sparse Latent Factors*, IEEE Transactions on Signal Processing, January 2012
10. U Kang, Brendan Meeder, Evangelos E. Papalexakis, Christos Faloutsos, *HEigen: Spectral Analysis for Billion-Scale Graphs*, IEEE Transactions on Knowledge and Data Engineering, November 2011
11. Rasmus Bro, Evangelos E. Papalexakis, Evrim Acar, Nicholas D. Sidiropoulos *Coclustering - a useful tool for Chemo-*

*metrics*, Journal of Chemometrics, 2012.

## BOOK CHAPTERS

1. Evangelos E. Papalexakis, Alex Beutel, Peter Steenkiste, *Network Anomaly Detection using Co-clustering*, in Springer Encyclopedia of Social Network Analysis and Mining, 2014.

## REFEREED WORKSHOP PUBLICATIONS

1. Evangelos E. Papalexakis, A. Seza Dođruöz, *Understanding Multilingual Social Networks in Online Immigrant Communities*, at the Multilingual Web Access (MWA) Workshop at WWW 2015, Florence, Italy
2. Evangelos E. Papalexakis, Dong Nguyen, Seza Dođruöz, *Predicting Code-switching in Multilingual Communication for Immigrant Communities*, at the Workshop on Computational Approaches to Code Switching at EMNLP 2014, Doha, Qatar
3. Evangelos E. Papalexakis, Nicholas D. Sidiropoulos, Minos Garofalakis *Reviewer Profiling Using Sparse Matrix Regression*, IEEE OEDM 2010 Workshop, held in conjunction with ICDM 2010, Sydney, Australia
4. Nicholas D. Sidiropoulos, Evangelos E. Papalexakis, *Three-way Co-clustering*, SIAM workshop on Tensor Decompositions and Applications (TDA 2010), Monopoli, Bari, Italy, 13-17 September 2010

## INVITED TALKS

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1. *Big Signal Processing for Multi-Aspect Data Science* , Northeastern University, March 2016, (hosted by Tina Eliassi-Rad).
2. *Big Signal Processing for Multi-Aspect Data Science* , Texas A&M University, March 2016, (hosted by James Caverlee).
3. *Big Signal Processing for Multi-Aspect Data Science* , University of California Riverside, March 2016, (hosted by Eamonn Keogh).
4. *Big Signal Processing for Multi-Aspect Data Science* , University of Illinois at Chicago, February 2016, (hosted by Brian Ziebart).
5. *Big Signal Processing for Multi-Aspect Data Science* , NYU Stern School of Business, February 2016, (hosted by Arun Sundarajan).
6. *Big Signal Processing for Multi-Aspect Data Science* , University of Notre Dame, February 2016, (hosted by Nitesh Chawla).
7. *Mining Large Multi-Aspect Data: Algorithms and Applications*, Facebook HQ, Menlo Park, November 2015 (hosted by Sofus Macskassy).
8. *Mining Large Multi-Aspect Data: Algorithms and Applications*, Rutgers University, NJ, October 2015 (hosted by Tina Eliassi-Rad).
9. *Mining Large Multi-Aspect Data: Algorithms and Applications*, Microsoft Research Asia, Beijing, China, August 2015 (hosted by Yu Zheng).
10. *Mining Large Multi-Aspect Data: Algorithms and Applications*, Chinese Academy of Sciences, Beijing, China, August 2015 (hosted by Ping Luo).
11. *Mining Large Multi-Aspect Data: Algorithms and Applications*, Tsinghua University, Beijing, China, August 2015 (hosted by Peng Cui).
12. *Overlap Between Google and Bing Web Search Results! Twitter to the Rescue?*, COSN'15 PC Workshop, Stanford University, CA (hosted by Rakesh Agrawal).
13. *Efficient and Effective Brain Activity Mining and Modeling*, Singapore Management University, Singapore, April 2015 (hosted by David Lo).
14. *Mining Large Multi-Aspect Data: Algorithms and Applications*, Beyond the Horizon Workshop, University of Bristol, UK, November 2014.
15. *Efficient and Effective Brain Activity Mining and Modeling*, Carnegie Mellon University Qatar, Doha, Qatar, October 2014 (hosted by Mohammad Hammoud).
16. *Big Arctic Data: A tutorial on Big Data*, Arctic Analysis 2014, Ilulissat, Greenland, March 2014.
17. *Scaling Up Tensor Decompositions with MapReduce*, SIAM Conference on Parallel Processing (PP), Portland, OR, Feb. 19, 2014.

18. *Data Mining using Coupled Matrix Tensor Factorization*, SIAM Conference on Computational Science and Engineering (CSE), Boston, MA, Feb. 25- March 1, 2013 (Minisymposium Speaker).

## ACADEMIC ACTIVITIES

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### Service/Reviewing

- **Program Committee Member:** SIGMOD DyNetMM 2013 Workshop, CIKM 2014, CIKM 2015, ASONAM 2016, CIKM 2016.
- **Conference Reviewer:** IEEE ICDM 2011, MILCOM 2012, WWW 2012, IEEE ICASSP 2014.
- **Journal Reviewer:** Journal of Machine Learning Research (JMLR), ECML/PKDD 2014 Journal Track, Springer Data Mining & Knowledge Discovery (DAMI), Springer ESNAM Encyclopedia, IEEE Transactions on Knowledge & Data Engineering (TKDE), IEEE Transactions on Signal Processing (TSP), IEEE Selected Topics on Signal Processing, IEEE Signal Processing Letters, Elsevier Neurocomputing.

### Grants

- Contributed in grant proposal writing NSF IIS-1247489 *BIGDATA: Mid-Scale: DA: Collaborative Research: Big Tensor Mining: Theory, Scalable Algorithms and Applications* (with Tom Mitchell; and UMN: Nikos Sidiropoulos, George Karypis).

### Teaching Experience

- Instructor for class *CS235 Data Mining Techniques* (Fall 2016) at University of California Riverside.
- Guest Lecture on *Tensor Decompositions* for class *15-826 Multimedia Databases and Data Mining* (Fall 2014) at Carnegie Mellon University.
- Guest Lecture on *Scalable Tensor Methods* for class *10-605 Machine Learning with Large Datasets* (Fall 2013) at Carnegie Mellon University.
- Teaching Assistant for classes *15-826 Multimedia Databases and Data Mining (Fall 2013)* and *15-415/615 DB Applications (Spring 2014)* at Carnegie Mellon University.
- Teaching Assistant and web-master for the Graph Analytics Workshop, organized at Carnegie Mellon University, September 10-13, 2012. Website: <http://www.cs.cmu.edu/~epapalex/gmc/>.
- Teaching Assistant for the *Statistical Signal Processing for Communications* course at TUC, March 2011 - August 2011, and for the *Introduction to Optimization* course at TUC, September 2010 - February 2011.

### Student Mentoring/Advising

- **Ms. Qi Xia**, Senior MS student at the MCDS program at CMU.  
Project Description: Triple-Sparse Tensor Decompositions with Quality Assessment.
- **Ms. Hyun-Ah Song**, Machine Learning PhD student at CMU.  
Project Description: Using Information Theory to optimally teach a binary matrix of facts to a student.
- **Mr. Jingkun Gao**: Civil Engineering PhD student at CMU.  
Project Description: Connections between Recurrent Neural Networks and System Identification for Brain Functional Connectivity Discovery.
- **Ms. Ticha Sethapakdi**: Undergraduate student with double major in Arts and Computer Science at CMU.  
Project Description: Data Mining for Linked Data: Doing Tensor Decompositions Using SPARQL.
- **Ms. Elizabeth (Lijia) Hong**: Senior MS student at the VLIS program at CMU (at Pinterest).  
Project Description: Distributed Triple-Sparse Tensor Decomposition on Hadoop.

### Tutorials

- *Factoring Tensors in the Cloud: A Tutorial on Big Tensor Data Analytics* at IEEE ICASSP 2014 in Florence, Italy, with Nikos Sidiropoulos.
- *Big Arctic Data: A tutorial on Big Data*, Arctic Analysis 2014, Ilulissat, Greenland. This conference was organized by Prof. Rasmus Bro, bringing researchers from Chemometrics, Food Sciences, and Computer Science together.

## LANGUAGES

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- Greek: Native.
- English: First Certificate in English (University of Cambridge), Michigan Proficiency (ECPE), TOEFL iBT Score: 113/120 (Test Date: 13/11/2010)
- German: Zertifikat, Mittelstufe.

## REFERENCES

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**Christos Faloutsos, PhD**  
Professor, Computer Science  
*Carnegie Mellon University*  
Pittsburgh, PA 15213  
christos@cs.cmu.edu

**Nikos Sidiropoulos, PhD**  
Professor, Electrical & Computer Engineering  
*University of Minnesota*  
Minneapolis, MN 55455  
nikos@umn.edu

**Tom Mitchell, PhD**  
Professor, Machine Learning  
*Carnegie Mellon University*  
Pittsburgh, PA 15213  
tom.mitchell@cs.cmu.edu

**Rakesh Agrawal, PhD**  
President and Founder  
*Data Insights Laboratories*  
San Jose, CA 95160  
ragrawal@acm.org

Additional references available upon request.