

Panagiotis Papapetrou

Citizenship: Greek • Date of birth: 24 July 1981

Contact Information

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Current position

Sep 2009 – present Postdoctoral Researcher

Department of Information and Computer Science, Aalto University, Finland.
Research group: "Data Mining: Theory and Applications", Prof. Heikki Mannila.

Degrees

January 2010 Doctor of Philosophy (Ph.D.) in Computer Science

Department of Computer Science, Boston University, MA, USA.
Ph.D. thesis: "Embedding-based Subsequence Matching in Large Sequence Databases." Defended in June 2009.
Supervisor: Prof. George Kollios.

January 2007 Master of Arts (M.A.) in Computer Science

Department of Computer Science, Boston University, MA, USA.
M.A. thesis: "Constrained-based Mining of Frequent Arrangements of Temporal Intervals." Defended in September 2006.
Supervisor: Prof. George Kollios.

July 2003 Bachelor of Science (B.Sc.) in Computer Science

Department of Computer Science, University of Ioannina, Greece.
B.Sc. thesis: "Aggregate Usage Profiling Using Clustering Methods."
Supervisor: Prof. Dimitrios Fotiadis.

Employment Record

Jan 2004 – Jul 2009 Research/Teaching Assistant

M.A./Ph.D. Program, Graduate School of Arts and Sciences, Department of Computer Science, Boston University, MA, USA.

Sep 2001 – Jul 2003 Research Assistant

Unit of Medical Technology and Intelligent Information Systems (MEDLAB),
University of Ioannina, Greece.

Publications

Citation count is listed based on Google Scholar as of November 17 2011.

Journal Articles:

1. Panagiotis Papapetrou, Vassilis Athitsos, Michalis Potamias, George Kollios, Dimitrios Gunopulos, "Embedding-based subsequence matching in time-series databases." In ACM Transactions on Database Systems (**TODS**), Vol. 36, Issue 3, Article 17, 2011.
2. Panagiotis Papapetrou, Gary Benson, and George Kollios, "Mining Poly-regions in DNA." In the International Journal of Data Mining and Bioinformatics (**IJDMB**), 2011 (To Appear).
3. Alexios Kotsifakos, Panagiotis Papapetrou, Jaakko Hollmén, and Dimitrios Gunopulos, "A Subsequence Matching with Gaps-Range-Tolerances Framework: A Query-By-Humming Application." In Proceedings of the Very Large DataBases Endowment (**PVLDB**), Vol. 4, Issue 11, pages 761–771, 2011.
4. Panagiotis Papapetrou, George Kollios, Stan Sclaroff, and Dimitrios Gunopulos, "Mining Frequent Arrangements of Temporal Intervals." In Knowledge and Information Systems (**KAIS**), Vol. 21, Issue 2, pages 133–171, 2010. (citations: **14**)
5. Panagiotis Papapetrou, Vassilis Athitsos, George Kollios, and Dimitrios Gunopulos, "Reference-Based Alignment in Large Sequence Databases." In Proceedings of the Very Large DataBases Endowment (**PVLDB**), Vol. 2, Issue 1, pages 205–216, 2009. (citations: **6**)

Book Chapters:

6. Kai Puolamäki, Alessio Bertone, Roberto Theron, Otto Huisman, Jimmy Johansson, Silvia Miksch, Panagiotis Papapetrou, and Salvo Rinzivillo, "Mastering the Information Age Solving Problems with Visual Analytics", Chapter Data Mining, pages 39–56. Eurographics Association, 2010. (citations: **22**)

Peer-reviewed Conference Proceedings:

7. Panagiotis Papapetrou, Aristides Gionis, Heikki Mannila, "A Shapley Value Approach for Influence Attribution." In Proceedings of the European Conference of Machine Learning and Principles and Practices of Knowledge Discovery in Databases (**ECML/PKDD**), pages 549–564, 2011.
8. Jeffrey Lijffijt, Panagiotis Papapetrou, Kai Puolamäki, Heikki Mannila, "Analyzing Word Frequencies in Large Text Corpora Using Inter-arrival Times and Bootstrapping." In Proceedings of the European Conference of Machine Learning and Principles and Practices of Knowledge Discovery in Databases (**ECML/PKDD**), pages 341–357, 2011.
9. Orestis Kostakis, Panagiotis Papapetrou, Jaakko Hollmén, "ARTEMIS: Assessing the Similarity of Event-Interval Sequences." In Proceedings of the European Conference of Machine Learning and Principles and Practices of Knowledge Discovery in Databases (**ECML/PKDD**), pages 229–244, 2011.
10. Vassilis Athitsos, Panagiotis Papapetrou, Michalis Potamias, George Kollios, and Dimitrios Gunopulos, "Approximate Embedding-Based Subsequence Matching of Time Series." In Proceedings of the ACM Special Interest Group on Management of Data (**SIGMOD**), pages 365–378, 2008. (citations: **25**)
11. Vassilis Athitsos, Michalis Potamias, Panagiotis Papapetrou, and George Kollios, "Nearest Neighbor Retrieval Using Distance-Based Hashing." In Proceedings of the IEEE International Conference on Data Engineering (**ICDE**), pages 327–336, 2008. (citations: **31**)
12. Panagiotis Papapetrou, George Kollios, Stan Sclaroff, and Dimitrios Gunopulos, "Discovering Frequent Arrangements of Temporal Intervals." In Proceedings of the IEEE International Conference on Data Mining (**ICDM**), pages 354–361, 2005. (citations: **35**)
13. Alexios Kotsifakos, Vassilis Athitsos, Panagiotis Papapetrou, Jaakko Hollmén, and Dimitrios Gunopulos, "Model-based search in large time series databases." In Proceedings of Pervasive Technologies Related to Assistive Environments (**PETRA**), 2011.
14. Orestis Kostakis, Panagiotis Papapetrou, and Jaakko Hollmén, "Distance Measure for Querying Arrangements of Temporal Intervals." In Proceedings of Pervasive Technologies Related to Assistive Environments (**PETRA**), 2011.

Peer-reviewed Workshop Proceedings:

15. Jeffrey Lijffijt, Panagiotis Papapetrou, Jaakko Hollmén, Vassilis Athitsos. "Benchmarking dynamic time warping for music retrieval." In Proceedings of Pervasive Technologies Related to Assistive Environments Workshops (**PETRA Workshops**), 2010.
16. Jeffrey Lijffijt, Panagiotis Papapetrou, Jaakko Hollmén. "Tracking your steps on the track: Body sensor recordings of a controlled walking experiment." In Proceedings of Pervasive Technologies Related to Assistive Environments Workshops (**PETRA Workshops**), 2010.
17. Panagiotis Papapetrou, Paul Doliotis and Vassilis Athitsos, "Towards Faster Activity Search Using Embedding-based Subsequence Matching." In Proceedings of Pervasive Technologies Related to Assistive Environments Workshops (**PETRA Workshops**), 2009.
18. Kai Puolamaki, Panagiotis Papapetrou, and Jeffrey Lijffijt. "Visually-Controllable Data Mining Methods." In Proceedings of the IEEE International Conference on Data Mining Workshops (**ICDM VAKD**), 2010.
19. Panagiotis Papapetrou, Gary Benson, and George Kollios, "Discovering Frequent Poly-Regions in DNA Sequences." In Proceedings of the IEEE International Conference on Data Mining Workshop on Data Mining in Bioinformatics (**ICDM DMB**), 2006. (citations: **5**)

Technical Reports:

20. Jeffrey Lijffijt, Panagiotis Papapetrou, Niko Vuokko, and Kai Puolamäki. "The smallest set of constraints that explains the data: a randomization approach." TKK-ICS-R31, TKK Reports in Information and Computer Science, Espoo, 2010.
21. Panagiotis Papapetrou, Gary Benson, and George Kollios, "Generalized Methods for Discovering Frequent Poly-Regions in DNA Sequences." Technical Report, Department of Computer Science, Boston University, October 21, 2008.
22. Ching Chang, Raymond Sweha, Panagiotis Papapetrou, "Extending snBench to Support a Graphical Programming Interface for a Sensor Network Tasking Language (STEP)." Technical Report, Department of Computer Science, Boston University, July 14, 2006.

Theses:

23. Panagiotis Papapetrou, "Embedding-based Subsequence Matching in Large Sequence Databases." Ph.D. Thesis, 2010.
24. Panagiotis Papapetrou, "Constraint-based Mining of Frequent Arrangements of Temporal Intervals." M.A. Thesis, 2007.
25. Panagiotis Papapetrou, "Discovering Aggregate Usage Profiles using Clustering Methods." B.Sc. Thesis, 2003.

Funding History

Sep 2009 – present **Funding for Postdoctoral Research**

Finnish Centre of Excellence for Algorithmic Data Analysis Research (ALGODAN), funded by the Academy of Finland.

Jan 2004 – Jul 2009 **Funding for Ph.D. Studies**

United States National Science Foundation (NSF)
Grant Numbers: IIS-0330481, IIS-0705749, IIS-0308213, IIS-0329009, and IIS-0812309.

Honors and Awards

- 2004 – 2008** **Teaching Fellow Award** for academic years: 2004 – 2005 and 2007 – 2008.
Department of Computer Science, Boston University, MA, USA.

1999 – 2002 **Award for Academic Excellence** for three academic periods from 1999 to 2002. Greek National Scholarship Foundation (IKY).

Academic Experience

2011 **Conference/Workshop Organization**

- International Workshop on Mining Communities and People Recommenders (COMMPER) – in conjunction with the IEEE International Conference on Data Mining (ICDM) 2011.

2010 - 2011 **Program Committee Memberships**

- European Conference on Machine Learning and Principles and Practice on Knowledge Discovery in Databases (ECML PKDD) 2011.
- ACM Conference on Knowledge Discovery and Data Mining (SIGKDD) 2011.
- International Conference on Discovery Science (DS) 2011.
- SIGMOD/PODS PhD Workshop on Innovative Database Research (IDAR) 2011.
- ACM International Conference on Information and Knowledge Management (CIKM) 2010.
- IEEE ICDM Workshop on Visual Analytics and Data Mining (VAKD), 2010.
- ACM International Conference on Information and Knowledge Management (CIKM) 2010.
- IEEE Conference on Scientific and Statistical Database Management (SSDBM), 2010.

2007 - present **Journal reviewing**

- Transactions on Database Systems (TODS).
- Transactions on Knowledge Engineering (TKDE).
- Transactions on Data Mining and Knowledge Discovery (TKDD).
- Data Mining and Knowledge Discovery (DMKD).
- Knowledge And Information Systems (KAIS).

2004 - 2010 **External Reviewing**

- IEEE Symposium on Visual Analytics Science and Technology (VAST).
- ACM Special Interest Group on Management of Data (SIGMOD).
- ACM Special Interest Group on Knowledge Discovery from Data (SIGKDD).
- IEEE International Conference on Data Mining (ICDM).
- International Conference on Very Large Databases (VLDB).
- International Conference on Information and Knowledge Management (CIKM).

Teaching Experience

Fall 2011 **Lecturer**

Aalto University, Department of Information and Computer Science
T61.5060 – Algorithmic Methods of Data Mining.

Fall 2010 Lecturer

Aalto University, Department of Information and Computer Science
T61.5060 – Algorithmic Methods of Data Mining.

Student evaluations are available at:

<http://users.ics.tkk.fi/panagpap/evaluations.html>

Summer 2008 Lecturer

Boston University, Boston, MA, USA.

CAS CS101 - Introduction to Computer Science for Summer periods I and II.

Student evaluations are available at:

<http://cs-people.bu.edu/panagpap/evaluations.html>.

2004 – 2008 Teaching Assistant

Boston University, Boston, MA, USA.

Databases, Analysis of algorithms, Introduction to Computer Science, and
Introduction to Web Computing.

Student evaluations for some courses are available at:

<http://cs-people.bu.edu/panagpap/evaluations.html>.

International Visits and Invited Talks**October 2011 Yahoo! Research, Barcelona**

2-week research visit

Invited talk: "Time Series Subsequence Matching: A Query-by-humming
Application."

Host: Dr. Aristides Gionis.

October 2010 GFZ German Research Centre for Geosciences

2-day research visit

Invited talk: "Visually Controllable Data Mining Methods."

Host: Dr. Mike Sips.

March 2010 University of Antwerpen

2-day research visit

Host: Prof. Bart Goethals.

Miscellaneous

- Language skills** Greek (Native)
English (Fluent)
German (Good working knowledge)
Spanish (Basic)
Finnish (Elementary)
- Music skills** Organ (7 years of experience)
Theory of Music (Complete)

References

1. Dr. Heikki Mannila, Professor (heikki.mannila@aalto.fi)
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4. Dr. Dimitrios Gunopulos, Associate Professor (dg@di.uoa.gr)
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Panepistimiopolis, Ilissia
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5. Dr. Vassilis Athitsos, Assistant Professor (athitsos@uta.edu)
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