# Panagiotis Papapetrou

**Citizenship : Greek ▪ Date of birth : 24 July 1981**

| Contact Information | |
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| **Address:** | **Aalto University, School of Science, Department of Information and Computer Science,** |
| | **Konemiehentie 2, Espoo, Finland,** |
| | **P.O. Box 15400, FI-00076.** |
| **Tel :** | **+358-947023282** |
| **Fax:** | **+358-947023277** |
| **e-mail :** | **panagiotis.papapetrou@aalto.fi** |
| **Website:** | **http://users.ics.tkk.fi/panagpap** |

| Current position | |
|---|---|
| **Sep 2009 - present** | **Postdoctoral Researcher** |
| | Department of Information and Computer Science, Aalto University, Finland. |
| | **Superior**: Prof. Heikki Mannila. |

| Degrees | |
|---|---|
| **January 2010** | **Doctor of Philosophy (Ph.D.) in Computer Science** |
| | Issued by the Department of Computer Science, Boston University, MA, USA. |
| **January 2007** | **Master of Arts (M.A.) in Computer Science** |
| | Issued by the Department of Computer Science, Boston University, MA, USA. |
| **July 2003** | **Bachelor of Science (B.Sc.) in Computer Science** |
| | Issued by the Department of Computer Science, University of Ioannina, Greece. |

| Education | |
|---|---|
| **Sep 2003 - Jul 2009** | **Doctoral student** |
| | Department of Computer Science, Boston University, MA, USA. |
| | **Ph.D. thesis title:** *"Embedding-based Subsequence Matching in Large Sequence Databases".* |
| | **Supervisor:** Prof. George Kollios. |
| **Sep 2003 – Sep 2006** | **Graduate student** |
| | Department of Computer Science, Boston University, MA, USA. |
| | **M.A. thesis title:** *"Constrained-based Mining of Frequent Arrangements of Temporal Intervals".* |
| | **Supervisor:** Prof. George Kollios. |
| **Sep 1999 - Jul 2003** | **Undergraduate student** |
| | Department of Computer Science, University of Ioannina, Greece. |
| | **B.Sc. thesis title:** *"Discovering Aggregate Usage Profiles Using Clustering Methods".* |
| | **Supervisor:** Prof. Dimitrios Fotiadis. |

**Journal Articles:**

1. 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).

2. 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. (citations: **2**)

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 Endowement (**PVLDB**), Vol. 4, Issue 11, pages 761–771, 2011. (citations: **3**)

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: **17**)

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: **9**)

**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.

**Peer-reviewed Conference Proceedings:**

7. Jefrey Lijffijt, Panagiotis Papapetrou, Kai Puolamaki, "Size Matters: Finding the Most Informative Set of Window Lengths." In Proc. of the European Conference of Machine Learning and Principles and Practices of Knowledge Discovery in Databases (**ECML PKDD**), 2012. (To Appear)

8. Alexios Kotsifakos, Panagiotis Papapetrou, Jaakko hollmen, Dimitrios Gunopulos, Vassilis Athitsos, and George Kollios, "Hum-a-song: A Subsequence Matching with Gaps-Range-Tolerances Query-By-Humming System." In Very Large Databases (**VLDB**), 2012. (To Appear)

9. Alexios Kotsifakos, Panagiotis Papapetrou, Jaakko Hollmen, Dimitrios Gunopulos, Vassilis Athitsos, "A Survey of Query-By-Humming Similarity Methods." In Proc. of Pervasive Technologies Related to Assistive Environments (**PETRA**), 2012.

10. Panagiotis Papapetrou, Tatiana Chistiakova, Jaakko Hollmen, Vana Kalogeraki, and Dimitrios Gunopulos, "Finding representative objects using link analysis ranking." In Proc. of Pervasive Technologies Related to Assistive Environments (**PETRA**), 2012.

11. 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. (citations: **1**)

12. Jefrey 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. (citations: **3**)

13. 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. (citations: **1**)

14. 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. (citations: **2**)

15. 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. (citations: **2**)

16. 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: **32)**

17. 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: **41)**

18. 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: **38)**

**Peer-reviewed Workshop Proceedings:**

19. Konstantinos Georgatzis and Panagiotis Papapetrou, "Benchmarking link analysis ranking methods." In Proc. of Pervasive Technologies Related to Assistive Environments (**PETRA Workshops**), 2012.

20. Jefrey 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. (citations: **1**)

21. Jefrey 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. (citations: **1**)

22. 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.

23. Kai Puolamaki, Panagiotis Papapetrou, and Jefrey Lijffijt. "Visually-Controllable Data Mining Methods." In Proceedings of the IEEE International Conference on Data Mining Workshops (**ICDM VAKD**), 2010.

24. 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:**

25. Jefrey 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.

26. 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.

27. 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:**

28. Panagiotis Papapetrou, "Embedding-based Subsequence Matching in Large Sequence Databases." Ph.D. Thesis, 2010.

29. Panagiotis Papapetrou, "Constraint-based Mining of Frequent Arrangements of Temporal Intervals." M.A. Thesis, 2007.

**30.** Panagiotis Papapetrou, "Discovering Aggregate Usage Profiles using Clustering Methods." B.Sc. Thesis, 2003.

| 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 years from 1999 until 2002. |
| | *Greek National Foundation (IKY).* |

## Professional 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 / 2012**. |
| | • ACM Conference on Knowledge Discovery and Data Mining (SIGKDD) **2011 / 2012**. |
| | • 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 | **Reviewer for the following Journals** |
| | • Transactions on Database Systems (TODS). |
| | • Transactions on Knowledge Engineering (TKDE). |
| | • Transactions on Data Mining and Knowledge Discovery (TKDD). |
| | • Knowledge And Information Systems (KAIS). |
| | • Data Mining and Knowledge Discovery (DMKD). |
| 2004 - 2010 | **External Reviewer for the Peer-review evaluation of submissions of the following conferences** |
| | • 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). |
| 2001 - 2004 | **Project Developer** |
| | • Unit of Medical Technology and Intelligent Information Systems (MEDLAB), |

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| University of Ioannina, Greece. | |

## Teaching Experience

**Fall 2011**    **Lecturer**

Aalto University, Department of Information and Computer Science

Course: T61.5060 – Algorithmic Methods of Data Mining.

**Fall 2010**    **Lecturer**

Aalto University, Department of Information and Computer Science

Course: T61.5060 – Algorithmic Methods of Data Mining.

Student evaluations available at:

*http://users.ics.tkk.fi/panagpap/evaluations.html.*

**Summer 2008**    **Lecturer**

Boston University, Boston, MA, USA.

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

Student evaluations 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)

**Music skills**    Organ (7 years of experience)

Theory of Music (Complete)