

Kyriakos Mouratidis

Curriculum Vitae
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Personal Information

First Name: Kyriakos
Surname: Mouratidis
Gender: Male
Nationality: Greek

Current Position

Associate Professor
School of Information Systems
Singapore Management University

Education

Ph.D. in Computer Science
Department of Computer Science and Engineering
Hong Kong University of Science and Technology

B.Sc. in Computer Science
Department of Computer Science
Aristotle University of Thessaloniki, Greece
First Class Honours (2nd highest GPA in cohort)

Research Interests

Spatial and Spatiotemporal Databases, Mobile Computing, Preference-based Queries, Outsourced Database Authentication.

Journal Articles

- J1. Dimitris Papadias, Yufei Tao, Kyriakos Mouratidis, Chun Kit Hui: Aggregate Nearest Neighbor Queries in Spatial Databases. *ACM Transactions on Database Systems (TODS)*, 30(2), 529-576, 2005.
- J2. Kyriakos Mouratidis, Dimitris Papadias, Spiridon Bakiras, Yufei Tao: A Threshold-based Algorithm for Continuous Monitoring of k Nearest Neighbors. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 17(11), 1451-1464, 2005.
- J3. Jun Zhang, Dimitris Papadias, Kyriakos Mouratidis, Manli Zhu: Query Processing in Spatial Databases Containing Obstacles. *International Journal of Geographic Information Science (IJGIS)*, 19(10), 1091-1111, 2005.
- J4. Kyriakos Mouratidis, Dimitris Papadias: Continuous Nearest Neighbor

Queries over Sliding Windows. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 19(6), 789-803, 2007.

J5. Panos Kalnis, Gabriel Ghinita, Kyriakos Mouratidis, Dimitris Papadias: Preserving Location-based Identity Inference in Anonymous Spatial Queries. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 19(12), 1719-1733, 2007.

J6. Kyriakos Mouratidis, Dimitris Papadias, Spiros Papadimitriou: Tree-based Partition Querying: A Methodology for Computing Medoids in Large Spatial Datasets. *Very Large Data Bases Journal (VLDBJ)*, 17(4), 923-945, 2008.

J7. Kyriakos Mouratidis, Dimitris Sacharidis, HweeHwa Pang: Partially Materialized Digest Scheme: An Efficient Verification Method for Outsourced Databases. *Very Large Data Bases Journal (VLDBJ)*, 18(1), 363-381, 2009.

J8. Kyriakos Mouratidis, Spiridon Bakiras, Dimitris Papadias: Continuous Monitoring of Spatial Queries in Wireless Broadcast Environments. *IEEE Transactions on Mobile Computing (TMC)*, 8(10), 1297-1311, 2009.

J9. Leong Hou U, Kyriakos Mouratidis, Man Lung Yiu, Nikos Mamoulis: Optimal Matching between Spatial Datasets under Capacity Constraints. *ACM Transactions on Database Systems (TODS)*, 35(2), 2010.

J10. Leong Hou U, Kyriakos Mouratidis, Nikos Mamoulis: Continuous Spatial Assignment of Moving Users. *Very Large Data Bases Journal (VLDBJ)*, 19(2), 141-160, 2010.

J11. Kyriakos Mouratidis, Man Lung Yiu: Anonymous Query Processing in Road Networks. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 22(1), 2-15, 2010.

J12. Dimitris Sacharidis, Kyriakos Mouratidis, Dimitris Papadias: k -Anonymity in the Presence of External Databases. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 22(3), 392-403, 2010.

J13. Kyriakos Mouratidis, HweeHwa Pang: Efficient Evaluation of Continuous Text Search Queries. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 23(10), 1469-1482, 2011.

J14. HweeHwa Pang, Jilian Zhang, Kyriakos Mouratidis: Enhancing Access Privacy of Range Retrievals over B^+ -Trees. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 25(7), 1533-1547, 2013.

J15. Jilian Zhang, Kyriakos Mouratidis, HweeHwa Pang: Direct Neighbor Search. *Information Systems (IS)*, 44, 73-92, 2014.

J16. Kyriakos Mouratidis, Jing Li, Yu Tang, Nikos Mamoulis: Joint Search by Social and Spatial Proximity. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 27(3), 781-793, 2015.

J17. Yimin Lin, Kyriakos Mouratidis: Best Upgrade Plans for Single and Multiple Source-Destination Pairs. *GeoInformatica: Special Issue on the Best of SSTD 2013*, 19(2), 365-404, 2015.

J18. Pui Hang Li, Man Lung Yiu, Kyriakos Mouratidis: Discovering Historic

Traffic-tolerant Paths in Road Networks. *GeoInformatica*, 21(1), 1-32, 2017.

J19. Leong Hou U, Junjie Zhang, Kyriakos Mouratidis, Ye Li: Continuous Top-k Monitoring on Document Streams. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 29(5), 991-1003, 2017.

Conference Publications

C1. Dimitris Papadias, Qiongmao Shen, Yufei Tao, Kyriakos Mouratidis: Group Nearest Neighbor Queries. Proceedings of the *IEEE International Conference on Data Engineering (ICDE)*, pp. 301-312, 2004 (acceptance rate: 1/7).

C2. Jun Zhang, Dimitris Papadias, Kyriakos Mouratidis, Manli Zhu: Spatial Queries in the Presence of Obstacles. Proceedings of the *International Conference on Extending Database Technology (EDBT)*, pp. 366-384, 2004 (acceptance rate: 1/7).

C3. Kyriakos Mouratidis, Marios Hadjieleftheriou, Dimitris Papadias: Conceptual Partitioning: An Efficient Method for Continuous Nearest Neighbor Monitoring. Proceedings of the *ACM Conference on Management of Data (SIGMOD)*, pp. 634-645, 2005 (acceptance rate: 1/7).

C4. Kyriakos Mouratidis, Dimitris Papadias, Spiros Papadimitriou: Medoid Queries in Large Spatial Databases. Proceedings of the *International Symposium on Spatial and Temporal Databases (SSTD)*, pp. 55-72, 2005 (acceptance rate: 2/7).

C5. Manolis Terrovitis, Spiridon Bakiras, Dimitris Papadias, Kyriakos Mouratidis: Constrained Shortest Path Computation. Proceedings of the *International Symposium on Spatial and Temporal Databases (SSTD)*, pp. 181-199, 2005 (acceptance rate: 2/7).

C6. Kyriakos Mouratidis, Spiridon Bakiras, Dimitris Papadias: Continuous Monitoring of Top-k Queries over Sliding Windows. Proceedings of the *ACM Conference on Management of Data (SIGMOD)*, pp. 635-646, 2006 (acceptance rate: 1/8).

C7. Kyriakos Mouratidis, Man Lung Yiu, Dimitris Papadias, Nikos Mamoulis: Continuous Nearest Neighbor Monitoring in Road Networks. Proceedings of the *Very Large Data Bases Conference (VLDB)*, pp. 43-54, 2006 (acceptance rate: 1/7).

C8. Stavros Papadopoulos, Dimitris Sacharidis, Kyriakos Mouratidis: Continuous Medoid Queries over Moving Objects. Proceedings of the *International Symposium on Spatial and Temporal Databases (SSTD)*, pp. 38-56, 2007 (acceptance rate: 1/3).

C9. Leong Hou U, Man Lung Yiu, Kyriakos Mouratidis, Nikos Mamoulis: Capacity Constrained Assignment in Spatial Databases. Proceedings of the *ACM Conference on Management of Data (SIGMOD)*, pp. 15-28, 2008 (acceptance rate: 1/6).

C10. HweeHwa Pang, Kyriakos Mouratidis: Authenticating the Query Results of Text Search Engines. Proceedings of the *Very Large Data Bases Conference (VLDB)*, pp. 126-137, 2008 (acceptance rate: 1/6).

C11. Dimitris Sacharidis, Kostas Patroumpas, Manolis Terrovitis, Verena

- Kantere, Michalis Potamias, Kyriakos Mouratidis, Timos K. Sellis: On-Line Discovery of Hot Motion Paths. Proceedings of the *International Conference on Extending Database Technology (EDBT)*, pp. 392-403, 2008 (acceptance rate: 1/6).
- C12. HweeHwa Pang, Jilian Zhang, Kyriakos Mouratidis: Scalable Verification for Outsourced Dynamic Databases. Proceedings of the *Very Large Data Bases Conference (VLDB)*, pp. 802-813, 2009 (acceptance rate: 1/6).
- C13. Leong Hou U, Nikos Mamoulis, Kyriakos Mouratidis: A Fair Assignment Algorithm for Multiple Preference Queries. Proceedings of the *Very Large Data Bases Conference (VLDB)*, pp. 1054-1065, 2009 (acceptance rate: 1/7).
- C14. Kyriakos Mouratidis, HweeHwa Pang: An Incremental Threshold Method for Continuous Text Search Queries. Proceedings of the *IEEE International Conference on Data Engineering (ICDE)*, pp. 1187-1190, 2009 (short paper, acceptance rate: 1/4).
- C15. Leong Hou U, Nikos Mamoulis, Kyriakos Mouratidis: Efficient Evaluation of Multiple Preference Queries. Proceedings of the *IEEE International Conference on Data Engineering (ICDE)*, pp. 1251-1254, 2009 (short paper, acceptance rate: 1/4).
- C16. Kar Way Tan, Yimin Lin, Kyriakos Mouratidis: Spatial Cloaking Revisited: Distinguishing Information Leakage from Anonymity. Proceedings of the *International Symposium on Spatial and Temporal Databases (SSTD)*, pp. 117-134, 2009 (acceptance rate: 1/3).
- C17. Georgios Kellaris, Kyriakos Mouratidis: Shortest Path Computation on Air Indexes. Proceedings of the *Very Large Data Bases Conference (VLDB)*, pp. 747-757, 2010 (acceptance rate: 1/6).
- C18. Man Lung Yiu, Yimin Lin, Kyriakos Mouratidis: Efficient Verification of Shortest Path Search via Authenticated Hints. Proceedings of the *IEEE International Conference on Data Engineering (ICDE)*, pp. 237-248, 2010 (acceptance rate: 1/8).
- C19. Kyriakos Mouratidis, Yimin Lin, Man Lung Yiu: Preference Queries in Large Multi-Cost Transportation Networks. Proceedings of the *IEEE International Conference on Data Engineering (ICDE)*, pp. 533-544, 2010 (acceptance rate: 1/8).
- C20. Jilian Zhang, Kyriakos Mouratidis, HweeHwa Pang: Heuristic Algorithms for Balanced Multi-way Number Partitioning. Proceeding of the *International Joint Conference on Artificial Intelligence (IJCAI)*, pp. 693-698, 2011 (full paper, full presentation, acceptance rate: 1/6).
- C21. Kyriakos Mouratidis, Man Lung Yiu: Shortest Path Computation with No Information Leakage. Proceedings of the *Very Large Data Bases Conference (VLDB)*, pp. 692-703, 2012 (acceptance rate: 1/5).
- C22. Kyriakos Mouratidis, HweeHwa Pang: Computing Immutable Regions for Subspace Top-k Queries. Proceedings of the *Very Large Data Bases Conference (VLDB)*, pp. 73-84, 2013 (acceptance rate: 2/9).

C23. Yimin Lin, Kyriakos Mouratidis: Shortlisting Top-K Assignments. Proceeding of the *International Conference on Scientific and Statistical Database Management (SSDBM)*, article no. 21, 2013 (acceptance rate: 2/5).

C24. Yimin Lin, Kyriakos Mouratidis: Best Upgrade Plans for Large Road Networks. Proceedings of the *International Symposium on Spatial and Temporal Databases (SSTD)*, pp. 223-240, 2013 (acceptance rate: 2/5).

C25. Jilian Zhang, Kyriakos Mouratidis, HweeHwa Pang: Global Immutable Region Computation. Proceedings of the *ACM Conference on Management of Data (SIGMOD)*, pp. 1151-1162, 2014 (acceptance rate: 1/4).

C26. Pui Hang Li, Man Lung Yiu, Kyriakos Mouratidis: Historical Traffic-Tolerant Paths in Road Networks. Proceedings of the *ACM Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL)*, pp. 477-480, 2014 (short paper, acceptance rate: 4/9).

C27. Kyriakos Mouratidis, Jilian Zhang, HweeHwa Pang: Maximum Rank Query. Proceedings of the *Very Large Data Bases Conference (VLDB)*, pp. 1554-1565, 2015 (acceptance rate: 1/5).

C28. Kyriakos Mouratidis, Jing Li, Yu Tang, Nikos Mamoulis: Joint Search by Social and Spatial Proximity [Extended Abstract]. Proceedings of the *IEEE International Conference on Data Engineering (ICDE)*, pp. 1578-1579, 2016 (in poster session devoted to TKDE articles published in 2015).

C29. Bo Tang, Man Lung Yiu, Kyriakos Mouratidis, Kai Wang: Efficient Motif Discovery in Spatial Trajectories Using Discrete Fréchet Distance. Proceedings of the *International Conference on Extending Database Technology (EDBT)*, pp. 378-389, 2017 (acceptance rate: 1/5).

C30. Bo Tang, Kyriakos Mouratidis, Man Lung Yiu: Determining the Impact Regions of Competing Options in Preference Space. Proceedings of the *ACM Conference on Management of Data (SIGMOD)*, pp. 805-820, 2017 (acceptance rate: 1/5).

**Keynote
Speeches,
Tutorials &
Invited Papers**

1. Kyriakos Mouratidis: Spatial Queries in Wireless Broadcast Environments. Keynote at *International ACM Workshop on Data Engineering for Wireless and Mobile Access (MobiDE)*, pp. 39-44, 2012.

2. Kyriakos Mouratidis: Strong Location Privacy: A Case Study on Shortest Path Queries. Invited paper at *International Workshop on Mobile Data Analytics (MoDA)*, (ICDE Workshops) pp. 136-143, 2013.

3. Kyriakos Mouratidis: Geometric Aspects and Auxiliary Features to Top-k Processing. Advanced seminar at *International Conference on Mobile Data Management (MDM)*, pp. 1-3, 2016.

4. Kyriakos Mouratidis: Geometric Approaches for Top-k Queries. Tutorial at *Very Large Data Bases Conference (VLDB)*, pp. 1985-1987, 2017.

**Proceedings
Editor**

1. Dieter Pfoser, Yufei Tao, Kyriakos Mouratidis, Mario A. Nascimento, Mohamed F. Mokbel, Shashi Shekhar, Yan Huang: *Advances in Spatial and Temporal Databases - 12th International Symposium, SSTD 2011*,

Minneapolis, MN, USA, August 24-26, 2011, *Proceedings*. Lecture Notes in Computer Science 6849, Springer, 2011.

2. Mario A. Nascimento, Mohamed A. Sharaf, Feifei Li, Kyriakos Mouratidis: *Proceedings of the 12th International ACM Workshop on Data Engineering for Wireless and Mobile Access, MobiDE 2013, New York, NY, USA, June 23, 2013*. ACM, 2013.

3. Mario A. Nascimento, Matthias Renz, Tobias Emrich, Kyriakos Mouratidis, Andreas Züfle: *Proceedings of Workshop on Managing and Mining Enriched Geo-Spatial Data, GeoRich@SIGMOD 2014, Snowbird, UT, USA, June 27, 2014*. ACM, 2014.

4. Kyriakos Mouratidis, Matthias Renz, Tobias Emrich, Andreas Züfle, Krzysztof Janowicz: *Second International ACM Workshop on Managing and Mining Enriched Geo-Spatial Data, GeoRich@SIGMOD 2015, Melbourne, VIC, Australia, May 31, 2015*. ACM, 2015.

Book Chapters & Encyclopedia Entries

1. Kyriakos Mouratidis, Dimitris Papadias, Spiros Papadimitriou: Computing Medoids in Large Spatial Datasets. *Geographic Data Mining and Knowledge Discovery, Second Edition*, pp. 189-228, Harvey J. Miller and Jiawei Han (editors), Taylor and Francis, 2008.

2. Kyriakos Mouratidis: Continuous Monitoring of Spatial Queries. *Encyclopedia of Database Systems*, pp. 479-484, M. Tamer Özsu and Ling Liu (editors), Springer, 2009.

3. Sarana Nutanong, Mohammed Eunus Ali, Egemen Tanin, Kyriakos Mouratidis: Dynamic Nearest Neighbor Queries in Euclidean Space. *Encyclopedia of GIS*, pp. 496-501, Shashi Shekhar and Hui Xiong (editors), Springer, 2017.

Teaching Experience

Course Instructor, Singapore Management University, May 2006 - present:
IS 202 - Data Management
IS 410 - Advanced Data Management

Teaching Assistant, Hong Kong University of Science and Technology, September 2002 - June 2004.

Work Experience

Research Assistant, Hong Kong University of Science and Technology, July 2004 - March 2006.

Part-time Staff, Network Operation Centre of the Aristotle University, October 2000 - January 2002.
Responsibilities: Router Maintenance and Configuration.

Awards

Nominated for Excellent Teacher Award, SMU Teaching Excellence Awards, 2016.

Long Service Award (10 years), SMU, 2016.

Nominated for Excellent Teacher Award, SMU Teaching Excellence Awards, 2015.

Long Service Award (5 years), SMU, 2011.

Nominated for Most Promising Teacher Award, SMU Teaching Excellence Awards, 2009.

Fellowship for Research Excellence, Lee Foundation, Singapore, 2007.

Postgraduate Studentship, Hong Kong University of Science and Technology, 2002 - 2006.

Scholarship for attending the 2002 Lecture Series in Computer Science, *The Data Avalanche: Reducing Information Overload*, Onassis Foundation, Greece, 2002.

Scholarship for Academic Excellence (ranked 1st in class in 4th year of undergraduate study), State Scholarship's Foundation, Greece, 2002.

Scholarship for Academic Excellence (ranked 1st in class in 3rd year of undergraduate study), State Scholarship's Foundation, Greece, 2001.

Languages

Greek (Native), English (Fluent), French (Basic).