

## CURRICULUM VITAE

Mario A. Nascimento  
 nascimento.mario@gmail.com  
<https://www.abacate.ca>

### BIOGRAPHICAL SKETCH:

Mario A. Nascimento's most recent position was with Northeastern University, serving as Khoury College of Computer Sciences' first Director of Pacific Northwest Research, based at the Vancouver Campus in Canada. His mandate was to foster and nurture a research environment at Northeastern's Khoury campuses in Vancouver, Seattle and California. Before that he was a Professor at the University of Alberta's Department of Computing Science (including a six-year tenure as Department Chair), a researcher with the Brazilian Agency for Agricultural Research and an adjunct faculty member with the Institute of Computing of the University of Campinas in Brazil. He has also been a visiting professor at the National University of Singapore's School of Computing, Aalborg University's Department of Computer Science in Denmark, LMU's Institute for Informatics in Germany and at the Federal University of Ceara in Brazil. His main research interests are in the area of spatiotemporal data management and, according to Google Scholar, his 100+ publications have been cited 5,200+ times, yielding an H-index of 35. He recently served as the General co-Chair for ACM SIGSPATIAL 2024, and as the conference's Program Committee co-Chair in 2022 and 2023. Mario has also served often as a program committee member for the main database conferences, and as (co-)chair of several workshops and symposia. Finally, he has served as ACM SIGMOD's Information Director (2002-2005), ACM SIGMOD Record's Editor-In-Chief (2005-2007) and VLDB Journal's Editorial Board member (2011-2017), and is currently a member of GeoInformatica's Editorial Board and SSTD Endowment's Board of Directors (serving as its current Chair).

### EDUCATION

- Ph.D., Aug./1996.  
 Computer Science, Southern Methodist University (SMU), Dallas, Texas, USA.  
 Dissertation: Efficient Indexing of Temporal Databases via B<sup>+</sup>-trees.  
 Advisor: Prof. Margaret H. Dunham.
- M.Sc., Dec./1990.  
 Electrical Engineering, State University of Campinas (UNICAMP), Brazil.  
 Thesis: A Two-Phase Strategy for The Flexible Manufacturing Cell Scheduling Problem (in Portuguese).  
 Advisor: Prof. Vinicius A. Armentano.
- B.Sc., Dec./1987.  
 Applied Mathematics, State University of Campinas (UNICAMP), Brazil.

### PROFESSIONAL ACTIVITIES

- Northeastern University, Khoury College of Computer Sciences at Vancouver.  
 Director of Pacific Northwest Research, Jan/2023–Dec/2025.

- University of Victoria, Department of Computer Science  
Adjunct Professor (non-compensated), July/2023–now.
- University of Alberta, Department of Computing Science.  
Emeritus Professor, Jan./2024–now.  
Department Chair, July/2014–June/2021.  
Professor, July/2011–Dec/2023.  
Associate Chair (Research), May/2009–June/2013.  
Associate Professor (tenured), July/2005–June/2011.  
Assistant Professor, July/1999–June/2005.
- Huawei Canada.  
Visiting Researcher, July/2019–June/2020. (Administrative leave from the University of Alberta.)
- AltaML, Canada.  
Member of Board of Directors<sup>1</sup>, July/2018–Apr./2013.
- Ludwig-Maximilians-Universität Munich, Germany.  
Visiting Professor, Aug./2013–June/2014. (Sabbatical leave from the University of Alberta.)
- Federal University of Ceará, Brazil.  
Adjunct Professor, Nov./2012–Dec./2014.
- Aalborg University, Denmark.  
Visiting Professor, Jan./2006–Jun./2006. (Sabbatical leave from the University of Alberta.)
- National University of Singapore.  
Visiting Associate Professor, Aug./2005–Dec./2005 (Sabbatical leave from the University of Alberta.).
- Chung-Ang University, Korea.  
Invited IITA Visiting Professor, Mar./2005–June/2005.
- State University of Campinas (UNICAMP), Brazil.  
Adjunct Professor, Aug./1997–Jul./1999
- Brazilian Agency for Agricultural Research (EMBRAPA), Brazil.  
Researcher I, II and III, Jan./1987–Jun./1999.

### **RESEARCH INTERESTS**

- Spatiotemporal data management in general, e.g., indexing, trip planning queries, spatial crowdsourcing and related applications.

### **RESEARCH/EQUIPMENT GRANTS**

- Huawei Research Grant: “Tracking Machine Learning Models, Data and Performance.”  
Jan./2021-May/2022. \$140,500 total.
- NSERC Individual Discovery Grant: “Trip Planning Queries in Road Networks.”  
Apr./2017–Mar./2023. \$34,000/year.
- NSERC Engage Grant: “Big data management aiming at data analytics within an oil/gas operation.”  
June./2016-Feb./2017. \$25,000 total.

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<sup>1</sup> Not an employment relationship.

- Alberta Innovates Technology Futures Collaboration Grant: “ABBY-Net: Collaborative Research Network in Computing and Environmental Sciences Between Alberta and Bavaria.” Jan./2016-Jul./2017. \$75,000 total.
- Alberta Traffic Safety Fund: “Data Analytics for Improving Traffic Safety.” Aug./2012–July/2013. \$13,750/year. Co-PI with J. Sander.
- NSERC Strategic Network: “DIVA: Developing Next Generation Intelligent Vehicular Networks and Applications.” Sep./2011-Sep./2016. \$1,000,000/year. Co-PI with several others. Lead Researcher: Azzedine Boukerche (Univ. of Ottawa). Note: Left the network in 2012.
- Alberta Innovates Technology Futures Collaboration Grant: “ABBY-Net: Collaborative Research Network In Computing and Environmental Sciences Between Alberta and Bavaria.” Oct./2011-Dec./2015 (extended). \$42,000/year x 3 years.
- NSERC Individual Discovery Grant: “Exploring Context in Spatio-Temporal Data.” Apr./2011–Mar./2015. \$29,000/year. (Extended to Mar./2016.)
- UofA/LMU Partnership Program: Collaborative Database Research via Student Co-Supervision and Mobility July/2010–Mar./2010. \$10,920. Co-PI with J. Sander.
- CFI New Initiatives Fund: “ENVIRO-Net: Sensing our changing environment.” Apr./2010–Mar./2015. \$726,480. Co-PI with 12 others, PI: A. Sanchez-Azofeifa (University of Alberta). Note: Matched (1:1) by an ASTIP Award by the Gov. of Alberta.
- NSERC Equipment Grant: “Wireless sensing technologies for environmental studies.” Apr./2008–Apr./2009. \$34,405. Co-PI with 4 others, PI: A. Sanchez-Azofeifa (University of Alberta).
- NSERC Equipment Grant: “Database Systems Lab Upgrade”. Apr./2007–Mar./2008. \$64,720. Co-PI with 4 others, PI: D. Rafiei (University of Alberta).
- NSERC Individual Discovery Grant: “Database Management in Sensor Networks.” Apr./2007–Mar./2011. \$22,000/year.
- NSERC Equipment Grant: “CoWSens: A coordinated wireless sensor networking and database research laboratory”. Apr./2005–Mar./2007. \$54,800. Co-PI with 2 others, PI: I. Nikolaidis (University of Alberta).
- CFI Innovation Fund 2003 Grant: “Efficient Processing of Multimedia Data.” Mar./2004–Feb./2005. \$511,785. Co-PI with 9 others, PI: R. Missaoui (Universite du Quebec aux Outaouais).
- Canadian Heritage Ministry Grant: “Cultural Content Management Research Network.” Jan./ 2003–Mar./2004. \$ 998,394. Co-PI with 9 others, PI: D. Ziou, University of Sherbrooke).
- Research Agreement with Profilium, Inc. (Montreal, Canada): “Object-relational Database Management Systems to Provide Support for Spatio-temporal Data and Queries.” Oct./2003–Feb./2004. \$9,200. Co-PI with J. Sander.
- NSERC Equipment Grant: “Upgrading the database laboratory equipment at the University of Alberta” Apr./2002–Mar./2004. \$46,206.00. Co-PI with 4 others, PI: J. Sander (University of Alberta).
- CFI New Opportunities Grant: “Laboratory for Advanced Computer and Network Systems: End-to-End Performance and Availability.” Sep./2000–Mar./2001. \$131,236. Co-PI with 2 others, PI: P. Lu (University of Alberta).
- NSERC Individual Research Grant: “Access Methods for Image Databases.” Apr./2000–Mar./2006. \$20,000/year.
- NSERC Equipment Grant: “Improving and supplementing the database laboratory

- infrastructure at the University of Alberta.”  
 Apr./2000–Mar./2006. \$30,671. Co-PI with 4 others, PI: O. Zaiane (University of Alberta).
- University of Alberta's Start-up Research Grant.  
 Jul./1999–Jun./2001, \$55,000.

### INVITED SEMINARS<sup>2</sup>

- Approximate Nearest Neighbor Queries and Vector Databases  
 Oct./2024. Tutorial at the 39th Brazilian Database Symposium.
- Using the Wisdom of the Crowd in Route Planning.  
 Feb./2019. SAP, Germany.  
 May/2016. Reykjavik University.  
 Nov./2015. Keynote at the 1<sup>st</sup> ACM SIGSPATIAL 2015 PhD Symposium  
 Oct./2015. Keynote at the 7th Intl. Conf. on Management of Computational and Collective Intelligence in Digital Ecosystems.
- K-Nearest Neighbor Queries with Operating Time Constraints in Time-Dependent Road Networks  
 May/2014. Hong Kong University and Hong Kong University of Science and Technology.  
 Jan./2014. Singapore Management University  
 Dec./2013. Aalborg University, Denmark.
- Algorithms for Median Queries in Wireless Sensor Networks  
 Nov./2013. Florida Institute of Technology
- Optimizing Query Processing in Cache-Aware Wireless Sensor Networks.  
 June/2016. Lawrence Berkeley National Lab.  
 May/2016. George Mason University. (College of Science's Dean's Distinguished Lecturer Series)  
 Apr./2015. University Roma Tre, Italy.  
 Mar./2014. University of Saarbruecken, Germany  
 Feb./2014. University of Piraeus, Greece.  
 June./2014. University of Stuttgart, Germany  
 Jun./2012. Dalhousie University, Canada  
 Apr./2010. Simon Fraser University, Canada and Ludwig-Maximilians-Universität, Germany.  
 May/2010. Karlsruhe Institute of Technology, Germany.
- An Introduction to Query Processing Within Wireless Sensor Networks (2.5 hrs Tutorial).  
 Jun./2011. Universidad de Las Americas, Cholula, Mexico.
- Networks? Hi, My Name is Databases, I have a Business Proposition For You ...  
 Oct./2010. Keynote at the Brazilian Symposium on Databases, Brazil.
- What happens in the forest when no one is looking?  
 Mar./2009. University of Alberta's Renewable Resources Seminar Series.
- Two Facets of Join Processing in Sensor Networks: Where and How.  
 Aug./2007. State University of Sao Paulo at Sao Carlos, Brazil.  
 Federal University of Minas Gerais, Brazil.  
 Federal University of Amazonas, Brazil.  
 State University of Campinas, Brazil.  
 July/2007. Federal University of Rio Grande do Sul, Brazil.

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<sup>2</sup> The same seminar may have been delivered at different places at different times.

- May/2007. University of Stuttgart, Germany.
- Exploiting Redundancy in Sensor Networks for Energy Efficient Processing of Spatiotemporal Region Queries.  
Sep./2005. Nanyang Technological University, Singapore.
- From Letters & Numbers to Space & Time and Beyond.  
May/2005. Keynote at the Korean Database Conference, Seoul, Korea.
- Using Off-The-Shelf RDBMS For Efficient Spatiotemporal Data Management.  
Apr./2005. Ewha Womans University, Korea.  
Korean Advanced Institute for Science and Technology (KAIST), Korea.
- Efficient and Effective Region-based Image Retrieval.  
Feb./2004. Universidad Michoacana de San Nicolas de Hidalgo, Mexico.
- Jan./2004. University of Waterloo, Canada.
- Dec./2003. University of Sherbrooke, Canada.
- Feb./2003. University of Toronto, Canada.
- Dec./2002. Université du Quebec aux Outaouais, Canada.
- Aug./2002. University of Geneva, Switzerland.
- Content-based Image Retrieval using Signature Trees.  
July/2001. National University of Singapore, Singapore.
- Indexing Temporal Data Via B<sup>+</sup>-trees.  
July/2001. University of Lyon, France.
- Jan./1999. University of Texas at Arlington, USA.
- Feb./1998. University of Arizona, USA.
- Apr./1997. Aalborg University, Denmark.  
Aristotle University at Thessaloniki, Greece.  
Agricultural University of Athens, Greece.
- Oct./1996. National Institute of Spatial Research, Brazil.
- Sep./1996. University of Bologna, Italy, Sep./96.

#### **AWARDS AND RECOGNITIONS**

- University of Alberta “Excellence in Leadership Award”, 2017.
- ACM Senior Member Recognition, 2007.
- Southern Methodist University’s International Student Scholarship, 1995.
- Rick Barrett Memorial Award (Dept. of Computer Science, Southern Methodist University), 1996.

#### **SUPERVISION**

##### **Ph.D. STUDENTS (7)**

- Camila F. Costa, Aug./2020-Sep./2015. **(Recipient of the Department’s Outstanding PhD Thesis Award.)**  
Topic: Trade-off Queries in Spatial Crowdsourcing.  
Last known position: Software Engineer at Google Canada.
- Elham Ahmadi, Sep./2012-Sep./2017.  
Group Trip Planning Queries.  
Last known position: Data Scientist Shopify.
- Ryan Vogt, Jun./2011-Feb./2014. **(Recipient of a Alberta Innovates Scholarship**

**Award.)**

- Human Mobility and Location Privacy in Wireless Sensor Networks.  
Co-supervisor: Ioannis Nikolaidis.  
Last known position: Lecturer at Univ. of British Columbia.
- Zhiyu Wang. Sep./2009-Aug./2013.  
Query Routing and Processing within Likely-disconnected Wireless Sensor Networks.  
Co-supervisor: Mike MacGregor.  
Last known position: (deceased).
  - Baljeet Malhotra. Sep./2005–Aug./2010.  
Top-K Queries in Wireless Sensor Networks. (**Recipient of a NSERC PGS-B Scholarship Award.**)  
Co-supervisor: Ioannis Nikolaidis.  
Last known position: Founder and CEO of Teejlab, Inc.
  - Alexandru Coman. Sep./2002–Jun./2007. (**Recipient of the 2003 Dept. of Computing Science Ph.D. Research Award.**)  
Query Processing in Wireless Sensor Networks.  
Last known position: Senior Software Engineer at Google Waterloo.
  - Renato O. Stehling (UNICAMP, Brazil). Feb./1999–Oct./2002.  
Representing and Retrieving Images in Large and Heterogeneous Image Databases.  
Co-supervisor: Alexandre X. Falcao.  
Last known position: Head of Delivery at Avanade Brazil.

**M.Sc. STUDENTS (34)**

- Aaditya Mukherjee – Mar./2025.  
Fast Trips: A Scalable Insertion Operator Approach for Ridesharing over Time-Dependent Road Networks.  
Co-supervisor: Sean Chester (Univ. of Victoria).
- Ji Chen. May/2024 – Dec./2024.  
On the Use of Time Series Foundation Models for Error-Bounded Lossy Compression.
- Amir Babamahmoudi. Aug./2022 – Aug./2024.  
Column Type Annotation Models.
- Behrad Khorram Nazari. Aug./2022 – Aug./2024.  
Identifying Column Type and Units.
- Adeel Gajia (Course-based MSc). Aug./2022 – Dec./2024.  
Flight Trajectory Recommendation based on Historical Weather Similarity.
- Hayat Sultan Mohammed. May./2022 – Jan./2023.  
On the Use of Language Models for Trajectory Imputation.
- Nikoo Sadat Aghaei. Apr./2020 – Jan.2022.  
Automated Augmentation of Image Datasets.  
Last known position: Machine Learning Software Engineer at Borealis (Vancouver)
- Samiul Anwar. Sep./2019 – Aug./2020.  
Spatial Crowdsourcing and Personal Shoppers.  
Co-supervisor: Francesco Lettich.  
Last known position: Software Engineer at Amazon, Canada.
- Yongzhen (Arthur) Pan. Sep./20187 – Jan./2020.  
Real-Time Prediction of Aircraft Trajectory.  
Co-supervisor: Joerg Sander.  
Last known position: Senior Member of Technical Staff - DSO National Laboratories, Singapore.
- Dapeng Li. Sep./2012- Aug./2013.

- Discovering Spatial Co-clustering Patterns in Collision Data.  
 Co-supervisor: Joerg Sander.  
 Last known position: Chief Technology Officer at Fuse Nano Technology Co, China.
- Ailin Zhou. Mar./2012- July/2013.  
 A Fault Recovery Scheme for Wireless Sensor Networks.  
 Last known position: Solutions Architect at Amazon Web Services (Shanghai).
  - Feng Jiang. Mar./2012-July/2013.  
 FAR-Tree: A Spatial Index for Solid State Drives.  
 Last known position: Data Engineering Manager at Coursera
  - Agzam Idrisov. Sep./2011-Aug./2012.  
 Cleaning Trajectory Data.  
 Last known position: Analyst at National Agency for Technological Development, Kazakhstan.
  - Khaled Amar. Sep./2010–July/2011.  
 Histogram Queries in Wireless Sensor Networks.  
 Last known position: Lead of AI Platform, Borealis AI.
  - Zhiyu Wang. Sep./2008–Aug./2009.  
 Static detection and identification of X86 malicious executables: A multidisciplinary approach.  
 Last known position: (deceased).  
 Co-supervisor: Mike MacGregor.
  - Sunil Ravinder. Sep./2008–Aug./2009.  
 Cache Architectures to Improve IP Lookups.  
 Last known position: Senior Manager at Alberta Gaming Liquor and Cannabis, Canada.  
 Co-supervisor: Mike MacGregor.
  - Yang Zhao. Sep./2008–Aug./2009.  
 Geometric filter: A space and time efficient lookup table with bounded error.  
 Last known position: System Analyst / Developer, iATS Payments, Inc..  
 Co-supervisor: Davood Rafiei.
  - Viorica Botea. Sep./2004–Apr./2006.  
 Handling Trajectory Data Within Off-the-shelf RDBMS.  
 Last known position: Research associate at NICTA, Australia.
  - Christian Digout. Sep./2002–Aug./2004.  
 Metric Techniques for Indexing.  
 Holder of a NSERC PGS-A Scholarship.  
 Last known position: Medical Doctor, Nova Scotia.
  - Daniel Mallett. Jan./2003–Jul./2004.  
 RDBMS Support for Spatio-Temporal Data.  
 Holder of a NSERC PGS-A Scholarship.  
 Co-supervisor: Joerg Sander.  
 Last known position: Senior Consultant at Esri Canada.
  - Jie Luo. Sep./2002–July/2004.  
 Content-based Sub-Image Retrieval via Relevance Feedback.  
 Holder of an iCORE Scholarship.
  - Alexandru Coman. May/2001–July/2002.  
 Exploring Color Histogram Dataspace for Content-based Image Retrieval.  
 Current position: Senior Software Engineer at Google Waterloo.  
 Co-supervisor: Joerg Sander.
  - Yue Zhang. May/2001–July/2002.  
 Mosaicture - Building Pictures with Pictures.  
 Co-supervisor: Osmar Zaiane.

- Last known position: Database Analyst/DBA, TAPoR Project/Arts Department.
- Jeffery Antoniuk. May/2001–June/2002.  
PalmIRA: A Palm-OS based Information Retrieval Application  
Holder of a Province of Alberta Graduate Scholarship and a Departmental M.Sc. Academic Achievement Award.  
Last known position: Programmer / Analyst at University of Alberta Library.
- Veena Sridhar. May/2001–June/2002.  
Region-based Image Retrieval  
Last known position: Principal Technical Program Manager at Amazon.  
Co-supervisor: Xiaobo Li.
- Nicole Malloy. June/2000–Jan./2001.  
Stemming with Successor Variety: Variations on a Theme.  
Last known position: Grant McEwan College.
- Vishal Chitkara. May/2000–Apr./2001.  
Signature Files for Color Based Image Retrieval.  
Last known position: Practice Leader, Pegasystems, USA.
- Shuang Fan. May/2000–Sep./2001.  
Indexing Shapes via Distance Histograms.  
Last known position: Senior Data Scientist, Rogers Communications.
- Shengjiu Wang. May/2000–July/2001.  
Robust CBIR Using Local Color Histogram.  
Last known position: Consultant at Alberta Blue Cross.
- Nathan G. Colossi. May/1998–Mar./2000 (State University of Campinas, Brazil).  
Benchmarking Access Structures for High-Dimensional Data.  
Last known position: Cloud Solution Architect, Microsoft.
- Jefferson R. O. Silva, Jun./1997–Feb./1999 (State University of Campinas, Brazil).  
Generating and Indexing Spatiotemporal Data.  
Last known position: Ericsson Brazil.
- Ivan S. Lucena. Jul./1996–Feb./1998 (Brazilian Institute of Spatial Research, Brazil).  
An Object-Oriented Environment for Map Algebra.  
Co-supervisor: Gilberto Camara.  
Last known position: Clark University Labs, USA.
- Glauzia Faria. Feb./1996–Mar./1998 (State University of Campinas, Brazil).  
A Spatio-Temporal Database Framework for Geographical Information Systems.  
Co-supervisor: Claudia M. Bauzer-Medeiros.

#### **HOSTING POST-DOCTORAL FELLOWS/SABBATICAL VISITORS/VISITING STUDENTS (19)**

- Camila F. Costa , Jan.2021-Dec./2021.  
Post-doctoral Fellow.
- Francisco Lettich, Nov./2018-Nov./2019.  
Post-doctoral Fellow.
- Rubens de Oliveira Moraes Filho, Jan./2018-Aug./2018  
Visiting M.Sc. student from Federal University of Vicoso, Brazil
- Renato Stehling, Sep./2016-Feb./2017.  
Post-doctoral Fellow.
- Gustavo Coutinho, Jan./2015-Jun./2015  
Visiting M.Sc. student from Federal University of Ceara, Brazil
- Rone Ilidio Silva, Jan./2015-Dec./2015.  
Sabbatical Visitor from Federal University of SJ Del Rey, Brazil
- George Tsatsanifos, Feb./2015-Dec./2015.

Post-doctoral Fellow.

- Felix Borutta, Jun.-Aug.2014.  
Visiting M.Sc. student from LMU/Munich, Germany.
- Camila Costa, Jan.-July/2013.  
Visiting M.Sc. student from Federal University of Ceara, Brazil.
- Ticiana Linhares, Mar.-Ago./2012.  
Visiting M.Sc. student from Federal University of Ceara, Brazil.
- Livia Almada, Jan.-July/2012.  
Visiting M.Sc. student from Federal University of Ceara, Brazil.
- Nina Hubig, Aug.-Dec./2011.  
Visiting “Diplom” (M.Sc.) student from LMU/Munich, Germany.
- Jurandy G. Almeida, Apr.-Jun./2011.  
Visiting Ph.D. student from University of Campinas, Brazil
- Klaus Arthur Schmid, Mar.-Aug./2011.  
Visiting “Diplom” (M.Sc.) student from LMU/Munich, Germany.
- Anna Follmann, Aug.-Dec./2010.  
Visiting “Diplom” (M.Sc.) student from LMU/Munich, Germany.
- Johannes Niedermayer, Apr.-July/2010.  
Visiting “Diplom” (M.Sc.) student from LMU/Munich, Germany.
- Angelo Brayner (Prof.), Mar./2008-Feb./2009.  
Sabbatical Visitor from University of Fortaleza, Brazil.
- Romulo A.E. Alencar, Oct./2008-Mar./2009.  
Visiting M.Sc. student from University of Fortaleza, Brazil.
- Adriano Paterlini, Mar.-Jul./2008.  
Visiting M.Sc. student from University of Sao Paulo at Sao Carlos, Brazil.

#### **THESIS/DISSERTATION EXAMINER**

- External examining member:
  - Udes Gunarathna, Ph.D., University of Melbourne, Australia, 2023.
  - Ove Andersen, Ph.D., Aalborg University, Denmark, 2018.
  - Carlos Luebbe, Ph.D., University of Stuttgart, Germany, 2017.
  - Asif Aqbal, Ph.D., Aalborg University, Denmark, 2016.
  - Vaida Ceikute, Ph.D., Univ. of Aarhus, Denmark, 2013.
  - Thomas Bernecker, Ph.D., LMU, Germany, 2012.
  - Jueming Hu, Ph.D., Dalhousie University, Canada, 2012.
  - Marisa Petri (formerly Thoma), Ph.D., LMU, Germany, 2011.
  - Jurandy Almeida, Ph.D., Universidade de Campinas (UNICAMP), Brazil, 2011.
  - Adriano Paterlini, M.Sc., Universidade de Sao Paulo (USP), Brazil, 2010.
  - Maria M. Ruxanda, Ph.D., Aalborg University, Denmark, 2009.
  - D.R. Fernandes, M.Sc., Universidade Federal do Amazonas (UFAM), Brazil, 2004.
  - Ricardo R. Ciferri, Ph.D., Universidade Federal de Pernambuco (UFPE), Brazil, 2002.
  - C. Yu, Ph.D., National University of Singapore. 2001.
- Internal examining member:
  - 3 PhD dissertations and 1 MSc thesis at Northeastern University.
  - 30+ M.Sc. theses and 15+ Ph.D. dissertations at the Univ. of Alberta.

#### **TEACHING**

### **GRADUATE LEVEL**

- Northeastern University:
  - Research Capstone, Fall/2024 and Spring/2025.
  - Data Management, Fall/2023 and Spring/2024.
- University of Alberta:
  - Mobile Data Management, Winter 2015 and Winter 2017.
  - Spatio-temporal Data Management, Winter 2013.
  - Sensor Networks, Fall/2010 and Fall/2008 (co-taught with J. Harms).
  - Embedded Network Systems, Winter/2010 (co-taught with I. Nikolaidis and J. Harms due to P. Gburzynski's unexpected leave of absence).
  - Indexing Techniques for Databases, Fall/2006.
  - Information Retrieval, Winter 2004, Fall/2002, Winter/2001 and Winter/2000.

### **UNDERGRADUATE LEVEL (ALL AT THE UNIVERSITY OF ALBERTA)**

- Introduction to Data Science: Winter/2022, Fall/2022
- Introduction to File and Database Systems: Winter/2021, Winter/2019, Fall/2012, Fall/2011, Winter/2008, Fall/2007, Winter/2003, Winter/2002, Fall/2001: Winter/2001, Winter/2000 and Fall/2000.
- Database Management Systems: Fall/2003, Fall/2004 and Winter 2018.
- Introduction to Computing Science: Fall/2009, Winter/2008 and Winter/2007.

### **SERVICE**

#### **DEPARTMENT, FACULTY AND UNIVERSITY COMMITTEES**

- Member of University of Alberta's General Faculty Committee (elected), July/2022-Dec./2023.
- Department of Computer Science's Chair, University of Alberta. July/2014-June/2021<sup>3</sup>.
- Member of the University of Alberta's Chairs' Council Executive Committee. 2014-2016 and 2020-2021.
- Department of Computer Science's Associate Chair (Research), University of Alberta. 2009-2013.
- Member of the Department of Psychology Chair Selection Committee, University of Alberta. 2011.
- Member of Faculty of Science's Faculty Evaluation Committee, University of Alberta. 2007 and 2008.
- Member of the Department of Computing Science's Chair Selection Committee, University of Alberta. 2008.

#### **CONFERENCE COMMITTEES (Co-)CHAIRSHIPS**

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<sup>3</sup> On administrative leave between July/2019-June/2020.

- 2025:  
33<sup>rd</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Inf. Sys. (SIGSPATIAL), Tutorials co-Chair.
- 2024:  
32<sup>nd</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Inf. Sys. (SIGSPATIAL), General co-Chair.
- 2023:  
18th Intl. Symp. on Spatial and Temporal Data (SSTD), General co-Chair.  
31<sup>st</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Inf. Sys. (SIGSPATIAL), PC co-Chair.
- 24th IEEE Intl. Conf. on Mobile Data Management (MDM), Keynote co-Chair.
- 2022:  
30<sup>th</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Inf. Sys. (SIGSPATIAL), PC co-Chair.
- 2018:  
45<sup>th</sup> Intl. Conf. on Very Large Databases (VLDB), Panel co-Chair.
- 2016  
17th IEEE Intl. Conf. on Mobile Data Management (MDM), Tutorial co-Chair.
- 2015:  
16th IEEE Intl. Conf. on Mobile Data Management (MDM), Industrial Track co-Chair.
- 2014:  
ACM SIGMOD Undergraduate Research Track co-Chair.
- 2013:  
13<sup>th</sup> Intl. Symposium on Spatial and Temporal Databases (SSTD), PC co-Chair.
- 2012:  
11<sup>th</sup> Intl. ACM Workshop on Data Engineering for Wireless and Mobile Access (MobiDE), PC co-Chair.
- 2011:  
12<sup>th</sup> Symp. on Spatial and Temporal Data Mgmt (SSTD), Visions/Challenges track co-Chair.
- 2009  
6<sup>th</sup> VLDB Workshop for Data Management in Sensor Network (DMSN), PC co-Chair.
- 2007:  
23<sup>rd</sup> IEEE Intl. Conf. on Data Engineering (ICDE), Demonstrations track co-Chair.
- 2006:  
25<sup>th</sup> Brazilian Symposium on Databases (SBBD), PC co-Chair.
- 2004:
- 30<sup>th</sup> Intl. Conf. on Very Large Databases (VLDB), Proceedings Chair.  
2<sup>nd</sup> VLDB Workshop on Spatio-Temporal Database Management (STDBM), PC co-Chair.
- 2003:  
10<sup>th</sup> Intl. Symposium on String Processing and Information Retrieval (SPIRE), PC co-Chair.
- 2002:  
6<sup>th</sup> Intl. Data Engineering and Applications Symposium (IDEAS), PC co-Chair.
- 2001:  
3<sup>rd</sup> ACM MM Workshop on Multimedia Information Retrieval (ACM MIR), PC co-Chair.

#### **SELECTED PROGRAM COMMITTEES**

- 2024:  
50<sup>th</sup> Intl. Conf. on Very Large Databases (VLDB).
- 2023:  
49<sup>th</sup> Intl. Conf. on Very Large Databases (VLDB).
- 2022:  
48<sup>th</sup> Intl. Conf. on Very Large Databases (VLDB) PhD Workshop, PC member.  
38<sup>th</sup> IEEE Intl. Conf. on Data Engineering (ICDE), Demonstration Track.
- 2021:  
29<sup>th</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Inf. Sys. (SIGSPATIAL), Senior PC member.  
37<sup>th</sup> IEEE Intl. Conf. on Data Engineering (ICDE).
- 2020:  
28<sup>th</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Inf. Sys. (SIGSPATIAL), Senior PC member.  
21st IEEE Intl. Conf. on Mobile Data Management (MDM), Demonstrations Track co-Chair.
- 2019:  
27<sup>th</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Inf. Sys. (SIGSPATIAL), Senior PC member.  
45<sup>th</sup> Intl. Conf. on Very Large Databases (VLDB).  
35<sup>th</sup> IEEE Intl. Conf. on Data Engineering (ICDE).  
20th IEEE Intl. Conf. on Mobile Data Management (MDM).
- 2018:  
2018 ACM SIGMOD, PC Member Demonstrations Track.  
26<sup>th</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Inf. Sys. (SIGSPATIAL), Senior PC member.  
34<sup>th</sup> IEEE Intl. Conf. on Data Engineering (ICDE).  
19th IEEE Intl. Conf. on Mobile Data Management (MDM).
- 2017:  
25<sup>th</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Inf. Sys. (SIGSPATIAL), Senior PC member.  
18th IEEE Intl. Conf. on Mobile Data Management (MDM).
- 2016:  
24<sup>th</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Inf. Sys. (SIGSPATIAL), Senior PC member.  
43<sup>rd</sup> Intl. Conf. on Very Large Databases (VLDB).  
32<sup>nd</sup> IEEE Intl. Conf. on Data Engineering (ICDE).
- 2015:  
23<sup>rd</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Inf. Sys. Senior PC member.  
2015 ACM SIGMOD (Demonstrations Track).  
20<sup>th</sup> Intl. Conf. on Database Systems for Advanced App. (DASFAA). Senior PC member.  
ACM Intl. Workshop on Location-Aware Recommendations.  
5th Intl. Conf. on Model & Data Engineering.  
9th Workshop and Summer School On Service-Oriented Computing.
- 2014:  
22<sup>nd</sup> ACM Intl. Conf. on Advances in Geographic Information Systems (SIGSPATIAL)  
30<sup>th</sup> IEEE Intl. Conf. on Data Engineering (ICDE).  
ACM SIGMOD PhD Symposium.  
ACM SIGMOD Demonstrations Track.

- 26<sup>th</sup> Intl. Conf. on Scientific and Statistical Database Management (SSDBM).
- 2013:  
ACM SIGMOD Demonstrations Track.
- 2012:  
24<sup>th</sup> IEEE Intl. Conf. on Scientific and Statistical Data Management (SSDBM).
- 2011:  
ACM SIGMOD.  
ACM SIGMOD PhD Workshop (IDAR).
- 2010:  
36<sup>th</sup> Intl. Conf. on Very Large Databases (VLDB).  
25<sup>th</sup> Brazilian Symposium on Databases (SBBB).
- 2009:  
25<sup>th</sup> IEEE Intl. Conf. on Data Engineering (ICDE).  
11<sup>th</sup> Intl. Symposium on Spatio-temporal Data (SSTD).  
24<sup>th</sup> Brazilian Symposium on Databases (SBBB).
- 2008:  
20<sup>th</sup> IEEE Intl. Conf. on Scientific and Statistical Data Management (SSDBM).  
23<sup>rd</sup> Brazilian Symposium on Databases (SBBB).
- 2007:  
ACM SIGMOD Intl. Conf. on Management of Data.  
16<sup>th</sup> ACM Intl. Conf. on Knowledge Management (CIKM).  
19<sup>th</sup> IEEE Intl. Conf. on Scientific and Statistical Data Management (SSDBM).  
22<sup>nd</sup> Brazilian Symposium on Databases (SBBB).
- 2006:  
11<sup>th</sup> Intl. Conf. on Database Systems for Advance Applications (DASFAA).  
21<sup>st</sup> Brazilian Symposium on Databases (SBBB).
- 2005:  
31<sup>st</sup> Intl. Conf. on Very Large Databases (VLDB).  
9<sup>th</sup> Intl. Symposium on Spatio-temporal Data (SSTD).  
20<sup>th</sup> Brazilian Symposium on Databases (SBBB).
- 2004:  
30<sup>th</sup> Intl. Conf. on Very Large Databases (VLDB).  
19<sup>th</sup> Brazilian Symposium on Databases (SBBB).
- 2003:  
CIKM, 8<sup>th</sup> Intl. Symposium on Spatio-temporal Data (SSTD).  
18<sup>th</sup> ACM Intl. Symposium on Applied Computing (ACM SAC).
- 2002:  
7<sup>th</sup> Intl. Symposium on String Processing and Information Retrieval (SPIRE).
- 2001:  
7<sup>th</sup> Intl. Symposium on Spatio-temporal Data (SSTD).  
6<sup>th</sup> Intl. Symposium on String Processing and Information Retrieval (SPIRE).

## **EDITORSHIP**

### **EDITORIAL BOARD MEMBER**

- GeoInformatica Journal, Sept./2017-present.
- The VLDB Journal, Sept./2011-Aug./2017.
- Journal of Information and Data Management, Oct./2010-Sep./2013.
- ACM SIGMOD Record. Jan./2005–Mar./2007. (Editor-In-Chief.)

- ACM SIGMOD Digital Symposium Collection (DiSC). Jan./2002–June/2003.

#### SPECIAL ISSUES/PROCEEDINGS

- Proceedings of the 32<sup>nd</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Inf. Sys. (SIGSPATIAL).  
Nascimento, M.A., Li, X., Züfle, A., Chiang, Y-Y., Eldawy, A. and Kröger, P. (Eds.)
- Proceedings of the 31<sup>st</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Inf. Sys. (SIGSPATIAL).  
Damiani, M., Renz, M., Eldawy, A., Kröger, P. and Nascimento, M.A. (Eds.)
- GeoInformatica J., 19(2), Apr./2015.  
Special Issue on Spatial and Temporal Database Management.  
Nascimento, M.A., Sellis, T. and Cheng, R. (Guest Eds.)
- Proceedings of the 13<sup>th</sup> Intl. Symp. On Spatial and Temporal Databases, SSTD 2013.  
Nascimento, M.A., Sellis, T., Cheng R., Sander, J. Zheng, Y., Kriegel, H-P, Renz, M. and Sengstock, C. (Eds.)
- Proceedings of the 11th ACM Intl. Workshop on Data Engineering for Wireless and Mobile Access, MobiDE 2012.  
Kollios, G., Tao, Y., Nascimento, M.A. and Sharaf, M.A. (Eds.)
- Distributed and Parallel Databases J, 29(1-2), Feb./2011.  
Special Issue on Query Processing in Wireless Sensor Networks.  
Buckmann, E., Nascimento, M.A. and Tatbul, N. (Guest Eds.)
- Springer's Encyclopedia of Database Systems. 2008–2009.  
Area Editor for Text Indexing Techniques.
- Journal of Systems and Software, 81(3), Mar./2008.  
Special Issue with the Best Papers of the 21<sup>th</sup> Brazilian Symposium on Databases.  
Masiero, P.C. and Nascimento, M.A. (Guest Eds.)
- GeoInformatica J., 9(4), Dec./2005.  
Special Issue with the Best Papers of the 2<sup>nd</sup> Intl. Workshop on Spatiotemporal Data Management.  
Sander, J. and Nascimento, M.A. (Guest Eds.)
- Proceedings of the 30<sup>th</sup> Intl. Conf. on Very Large Data Bases, 2004.  
Nascimento, M.A., Ozsu, M.T., Kossmann, D., Miller, R.J., Blakeley, J.A. and Schiefer, B.K. (Eds.)
- Proceedings of the 10<sup>th</sup> Intl. Symposium on Information Retrieval and String Processing.  
LNCS Vol. 2857, Oct./2003.  
Nascimento, M.A., Silva, E. and Oliveira, A. (Eds.)  
LNCS Vol. 2857, Springer-Verlag. Oct./2003.
- Multimedia Tools and Applications J., 21(1), Sep./2003.  
Special Issue with the Best Papers of the ACM Multimedia 2001 Workshop on Multimedia Information Retrieval.  
Nascimento, M.A., Candan, K.S. and Babaguchi, N. (Guest Eds.)
- Proceedings of the 6th Intl. Database Engineering and Applications Symposium, July/2002.  
Nascimento, M.A., Ozsu, M.T. and Zaiane, O. (Eds.)

#### OTHER<sup>4</sup>

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<sup>4</sup> I have also served as a referee in a number of tenure and promotion cases, but they are not listed in order to preserve the anonymity of the process. Other details in the list above may be missing for the very same reason.

- Member of External Review Committee for Western University's Graduate Program, 2022.
- Member of External Review Committee for Univ. of British Columbia Okanagan's CMPS programs, 2019.
- Member of External Review Committee for Univ. of Waterloo's Data Science Graduate Programs, 2018.
- Member of NSERC IRC External Review Committee for an application at Univ. of Waterloo, 2018.
- Member of CS-Can/Info-Can's Research Advisory Committee. July/2018-now
- Member of the CRA's Board of Directors as CACS/AIC's representative. July/2016-June/2018.
- Member of NSERC's Computing Science Liaison Committee, 2015-2017.
- Elected member of the University of Alberta's Provost Advisory Council of Chairs (July/2014-June/2016).
- Member of the Board of Directors for the Symposium on Spatio-Temporal Data Endowment, 2014-now.
- Founding member and University of Alberta's steering committee member for ABBY-Net, 2011-now
- Faculty Selection Advisory External Committee Member for Univ. of Aarhus, Denmark, 2013.
- Member of NSERC Discovery Grant Evaluation Group. 2010-2012 (Co-Chair in 2012).
- Member of the Tutorial Selection Committee for the 2010 ACM SIGMOD Intl. Conf. on Management of Data.
- Co-general chair for the 7<sup>th</sup> VLDB Workshop for Data Management in Sensor Network (DMSN), 2010.
- ACM SIGMOD Information Director (Jan./2003-Dec./2004)
- Local Organizer Chair for the ACM 2002 Intl. Conf. for Knowledge Discovery and Data Mining.
- Chair for the 2001 and 2002 ACM SIGMOD Undergraduate Scholarship Award.
- Publicity Chair for the ACM 2000 SIGMOD Intl. Conf. on Management of Data.
- Steering Committee memberships:
  - Symposium on Spatial and Temporal Databases, 2013-Present (currently serving as Chair).
  - ACM SIGMOD/PODS Ph.D. Symposium, 2012-2013.
  - Brazilian Symposium on Databases (SBBD), 2004–2008.
  - ACM Intl. Workshop on Multimedia Information Retrieval (ACM MIR), 2004 – 2008.
  - Intl. Symp. on String Processing and Information Retrieval (SPIRE), 2004 – 2006.
- Grant Proposal Reviewer (numerous times):
  - NSERC Canada.
  - Austrian Research Promotion Agency (FFG)
  - Accessibility and Knowledge Retrieval in the Netherlands.
  - Netherlands Organization for Scientific Research.
  - Research Grants Council of Hong Kong.

## PUBLICATIONS<sup>5</sup>

### REFEREED JOURNAL PAPERS (27)

1. Mokbel, Mohamed et al. Mobility Data Science: Perspectives and Challenges (Vision Paper). *ACM Transactions on Spatial Algorithms and Systems*, 10(2): 10:1-10:35, 2024.
2. Lelis, L, Moraes, R.O. and Nascimento, M.A. Asymmetric Action Abstractions for Planning in Real-Time Strategy Games. *Journal of Artificial Intelligence Research*. 75(2022): 1103-1137, 2022.
3. Cavalcante A., Sander, J., Campello R.J.G.B. and Nascimento, M.A. Efficient Computation and Visualization of Multiple Density-Based Clustering Hierarchies. *IEEE Transactions on Knowledge and Data Engineering*, 33(8): 3075 - 3089, 2021.
4. Costa, C.F. and Nascimento, M.A., In-Route Task Selection in Spatial Crowdsourcing. *ACM Transactions on Spatial Algorithms and Systems*, 6(2): 7:1-7:45, 2020.
5. Berger, E., Blackburn, S.M., Brodley, C., Jagadish, H.V., McKinley, K.A., Nascimento, M.A. Shin, M. Wang, K. and Xie, L. GOTO Rankings Considered Helpful. *Communications of the ACM*, 62(7), p. 29-30, 2019.
6. Costa, C.F., Nascimento, M.A. and Schubert, M. Diverse Nearest Neighbors Queries Using Linear Skylines. *GeoInformatica J.*, 21(4), p. 815-844, 2018.
7. Jossé, G., Schmid, K.A., Züfle, A., Skoumas, G., Schubert, M., Renz, M., Pfoser D. and Nascimento, M.A. Knowledge Extraction from Crowdsourced Data for the Enrichment of Road Networks. *GeoInformatica J.*, 21(4), p. 763–795, 2017.
8. Wang, Z., Nascimento, M.A. and MacGregor M. Discovering Periodic Patterns of Nodal Encounters in Mobile Networks. *J. of Pervasive and Mobile Computing*, 9(6), p. 892-912, 2013.
9. Silva, T.C., Nascimento, M.A., Macedo, J.A.F., Sousa, F.R.C. and Machado, J. Non-Intrusive Elastic Query Processing in the Cloud. *J. of Computer Science and Technology*, 28(6), p. 932–947, 2013.
10. Cruz, L.A., Nascimento, M.A and Macedo, J.A.F. K-Nearest Neighbors Queries in Time-Dependent Road Networks. *J. of Information and Data Management*, 3(3), p. 211-226, 2012.
11. Chen, Y., Chen, K. and Nascimento, M.A. Effective and Efficient Shape-Based Pattern Detection over Streaming Time Series. *IEEE Trans. of Knowledge and Data Engineering*, 24(2), p. 265-278, 2012.
12. Paterlini, A.A., Nascimento, M.A. and Traina Jr., C. Using Pivots to Speed-Up k-Medoids Clustering. *J. of Information and Data Management*, 2(2), p. 221–236, 2011.
13. Malhotra, B., Nascimento, M.A. and Nikolaidis, I. Exact Top-K Queries in Wireless Sensor Networks. *IEEE Trans. of Knowledge and Data Engineering*, 23(10), p. 1513-1525. 2011.
14. Zonta-Pastorello, G., Sanchez-Azofeifa, G.A. and Nascimento, M.A. Enviro-Net: from networks of ground-based sensor systems to a Web platform for sensor data management. *Sensors J.*, 11(6), p. 6454-6479, 2011. (<http://www.mdpi.com/1424-8220/11/6/6454/>).
15. Chen, S., Nascimento, M.A, Ooi, B.C. and Tan, K.L. Continuous Online Index Tuning in Moving Object Databases. *ACM Trans. on Database Systems*, 35(3), 2010. (<http://dx.doi.org/10.1145/1806907.1806909>.)
16. Malhotra, B., Nikolaidis, I. and Nascimento, M.A. Aggregation Convergecast Scheduling in Wireless Sensor Networks. *Wireless Networks J.*, 17(2), p. 319-335, 2011.

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<sup>5</sup> H-index: 35 (16) and ~5,200 (~1,000) citations (since 2020), according to Google Scholar as of Nov./2025. Names of (co)supervised/collaborating graduate students are underlined.

17. de Moura, E.S., Santos, C.F., Araujo, B.S., Silva, A.S., Calado, P. and Nascimento, M.A. Locality Based Pruning Methods for Web Search. *ACM Trans. on Information Systems*. 26(2), p. 235-244. 2008.
18. Coman, A., Sander, J. and Nascimento, M.A., Adaptive Processing of Historical Spatial Range Queries in Peer-to-Peer Sensor Networks. *Distributed and Parallel Databases J.*, 22(2-3), p. 133-167. 2007.
19. Botea, V., Mallett, D., Nascimento, M.A. and Sander, J. Efficient and Practical Indexing of Historical Spatio-Temporal Data. *GeoInformatica J.*, 12(2), p. 143-168. 2007.
20. Stehling, R.O., Nascimento, M.A. and Falcao, A.X. Cell Histograms Versus Color Histograms for Image Representation and Retrieval. *Knowledge and Information Systems J.*, 5(2), p. 315-336. July/2003.
21. Nascimento, M.A., Sridhar, V. and Li, X. Region-based Image Retrieval Using Multiple-Features. *J. Visual Languages and Computing*, 14(2), p. 151-179. Apr./2003.
22. Nascimento, M.A., Tousidou, E., Chitkara, V. and Manolopoulos, Y. Image Indexing and Retrieval Using Signature Trees. *Data and Knowledge Engineering J.*, 43(1), p. 57-77. Oct./2002
23. Oliveira, A.R.L., Nascimento, M.A. and Lyra, C. Efficient Implementation of Interior Point Methods for the Polynomial L1 Regression Problem. *J. of Computational Statistics and Data Analysis*, 35(2), p. 119-135, Dec./2000.
24. Nascimento, M.A and Dunham, M.H. Indexing Valid Time Databases via B<sup>+</sup>-trees. *IEEE Transactions on Knowledge and Data Engineering*, 11(6), p. 929-947. Nov.-Dec./1999.
25. Lin, J-L., Dunham, M.H. and Nascimento, M.A. Checkpointing in Distributed Databases – A Survey. *J. of Distributed and Parallel Databases*. 5(3), p. 289-319. July/1997.
26. Nascimento, M.A., Dunham, M.H. and Kouramajian, V. A Multiple Tree Mapping-Based Approach for Ranges Indexing. *J. of the Brazilian Computer Society – Special Issue on Databases*, 2(3), p. 36-46. Apr./1996.
27. Nascimento, M.A. Giffler and Thompson's Algorithm for Job Shop Scheduling is Still Good for Flexible Manufacturing Systems. *J. of the Operational Research Society*, 44(5), p. 521-524. May/1993.

#### REFEREED CONFERENCE PAPERS (83)

1. Mukherjee, A., Chester, S. and Nascimento, M.A, The Batch Insertion Operator for Shared Mobility Route Planning on Time-Dependent Road Networks. *Proc. of the 19<sup>th</sup> Symp. on Spatial and Temporal Databases (SSTD 2025)*, p. 90-100. (**Selected for an extended journal version as one of the best papers of the symposium.**)
2. Nie, H. and Nascimento, M.A. ShadeRoute: A Cloud-Based App for Shade-Optimized Routes. *Proc. of the 19<sup>th</sup> Symp. on Spatial and Temporal Databases (SSTD 2025)*, p. 234-237.
3. Li, Z-H., Motwani P. and Nascimento, M.A. Balancing Travel Time and Range Anxiety in Route Planning for Electric Vehicles. *Proc. of the 19<sup>th</sup> Symp. on Spatial and Temporal Databases (SSTD 2025)*, p. 243-236.
4. Wang, H., Wang, K., Zhang, T., Sun, Y., Singh, S. and Nascimento, M.A. A Predictive Parking Mobile Application Integrating Historical Usage and Precipitation Data. *Proc. of the 6th Intl. Workshop on Data-Driven Smart Cities (DASC2025)*.
5. Nazari, A.B.K., Rafiei, D. and Nascimento, M.A. MixedSAND: Semantic Annotation of Mixed-unit Numeric Data. *Proc. of the 2025 ACM Web Conference (WWW 2025)*, pp. 178-187.
6. Babamahmoudi, A., Rafiei, D. and Nascimento, M.A. Evaluating Column Type Annotation Models and Benchmarks. *Companion Proc. of the ACM on Web Conference 2025*, pp. 854-858. 2025.

7. Mohammed, H.S., Nascimento, M.A. and Barbosa, D. Effective Trajectory Imputation using Simple Probabilistic Language Models. *Proc. of the 25th IEEE Intl. Conf. on Mobile Data Management (MDM 2024)*, p. 51-60.
8. Costa, C.F. and Nascimento, M.A. Last Mile Delivery Considering Time-Dependent Locations. *Proc. of the 29<sup>th</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems (ACM SIGSPATIAL 2021)*. p. 121-132.
9. Costa, C.F. and Nascimento, M.A. Online In-Route Task Selection in Crowdsourcing. *Proc. of the 28<sup>th</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems (ACM SIGSPATIAL 2020)*, p. 239-230.
10. Anwar, S., Lettich, F. and Nascimento, M.A. The Personal Shopper's Dilemma: Shopping Time vs. Shopping Cost. *Proc. of the 28<sup>th</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems (ACM SIGSPATIAL 2020)*, p. 437-440.
11. Lettich, F., Nascimento, M.A., and Anwar, S. Trade-off Aware Sequenced Routing Queries (or OSR Queries when POIs are not Free). *Proc. of the 20<sup>th</sup> IEEE Intl. Conf. on Mobile Data Management (MDM 2020)*, p. 59-68.
12. Costa, C.F., Chondrogiannis, T., Nascimento, M.A. and Panagiotis, B. RRAMEN: An Interactive Tool for Evaluating Choices and Changes in Transportation Networks (Demonstration Paper). *Proc. of the 23rd Intl. Conf. on Extending Database Technology (EDBT 2020)*, p. 599-602.
13. Teng X., Yang, J., Kim, J.-S., Trajcevski, G., Nascimento, M.A., and Zuefle. Fine-Grained Diversification of Proximity Constrained Queries on Road Networks. A. *Proc. of the 17<sup>th</sup> Symp. on Spatial and Temporal Databases (SSTD 2019)*, p. 51-60.
14. Costa, C.F. and Nascimento, M.A. In-Route Task Selection in Crowdsourcing. *Proc. of the 26<sup>th</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems (ACM SIGSPATIAL 2018)*, p. 524-527.
15. Goldthorpe, Z., Cannon, J., Farebrother, J., Friggstad, Z. and Nascimento, M.A. Using Biconnected Components for Efficient Identification of Upstream Features in Large Spatial Networks (GIS Cup). *Proc. of the 26<sup>th</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems (ACM SIGSPATIAL 2018)*, p. 630-633 (**Winner of 3<sup>rd</sup> Place.**)
16. Cavalcante A., Nascimento, M.A., Sander, J. and Campello R.J.G.B. MustaCHE: A Multiple Clustering Hierarchies Explorer (Demonstration Paper). *Proc. of the 44<sup>th</sup> Intl. Conf. on Very Large Databases (VLDB 2018)*, p. 2058-2061.
17. Moraes R., Mariño J., Lelis L. and Nascimento, M.A. Action Abstraction Schemes for Combinatorial Multi-Armed Bandit Search Algorithms. *Proc. of the 14th AAAI Conf. on Artificial Intelligence and Interactive Digital Entertainment (AIIDE'18)*, p. 74-80.
18. Ahmadi, E. and Nascimento, M.A. Optimal Meeting Points for Public Transit Users. *Proc. of the 18<sup>th</sup> IEEE Intl. Conf. on Mobile Data Management (MDM 2018)*, p. 15-23.
19. Cavalcante A., Sander, J., Campello R.J.G.B. and Nascimento, M.A. Efficient Computation of Multiple Density-Based Clustering Hierarchies. *Proc. of 2017 IEEE Intl. Conf. on Data Mining (IEEE ICDM 2017)*. p. 991-996
20. Ahmadi, E., Costa, C.F. and Nascimento, M.A. Best-Compromise In-Route Nearest Neighbor Queries. *Proc. of the 25<sup>th</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems (ACM SIGSPATIAL 2017)*. p. 41:1-41:10.
21. Oliveira, M.I and Nascimento, M.A. MinMax Routing: The Case for Safe Routes for Electric Vehicles (Demo Paper). *Proc. of the 25<sup>th</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems (ACM SIGSPATIAL 2017)*. p. 89:1-89:4.
22. Costa, C.F. and Nascimento, M.A. Towards Spatially- and Category-wise Diverse k-Nearest Neighbors Queries. *Proc. of the 15<sup>th</sup> Symp. on Spatial and Temporal Databases (SSTD 2017)*, 2017, p. 163-181. 2017. (**Best Paper Award**).
23. Ahmadi, E. and Nascimento, M.A. IBS: An Efficient Stateful Algorithm for Optimal

- Sequenced Group Trip Planning Queries. *Proc. of the 17<sup>th</sup> IEEE Intl. Conf. on Mobile Data Management (MDM 2017)*, p. 212-221. 2017.
24. Ahmadi, E. and Nascimento, M.A. k-Optimal Meeting Points Based on Preferred Paths. *Proc. of the 24<sup>th</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems (ACM SIGSPATIAL 2016)*. Article #47 (<https://doi.org/10.1145/2996913.2996994>). 2016.
  25. Costa, C.F. and Nascimento, M.A. IDA Industrial Challenge 2016: Using Machine Learning for Predicting Failures. *Proc. of the 15<sup>th</sup> Intl. Symp. on Intelligent Data Analysis (IDA 2016)*, p. 381-386. 2016. (**Industrial Challenge Award Winner.**)
  26. Ahmadi, E. and Nascimento, M.A. K-Closest Pairs Queries in Road Networks. *Proc. of the 16<sup>th</sup> IEEE Intl. Conf. on Mobile Data Management (MDM 2016)*, p. 232-241. 2016.
  27. Silva, R.I. and Nascimento, M.A. On Best Drone Tour Plans for Data Collection in Wireless Sensor Network. *Proc. of the 31st ACM Symposium on Applied Computing (ACM SAC 2016)*, p. 703-708. 2016.
  28. Borutta, E., Nascimento, M.A., Niedermayer, J. and Kroeger, P. Reverse k-Nearest Neighbour Schedules in Time-Dependent Road Networks. *Proc. of the 23<sup>rd</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems (ACM SIGSPATIAL 2015)*. Article #27 (<http://dx.doi.org/10.1145/2820783.2820809>). 2015.
  29. Costa, C.F., Nascimento, M.A., Macedo, J.A.F., Theodoridis, Y., Pelekis, N. and Machado, J. Optimal Time-dependent Sequenced Route Queries in Road Networks. *Proc. of the 23<sup>rd</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems (ACM SIGSPATIAL 2015)*. Article #56 (<http://dx.doi.org/10.1145/2820783.2820846>). 2015. (**Best Fast-Forward Presentation Award Runner-up.**)
  30. Tsatsanifos, G., Petcovici, A. and Nascimento, M.A. Meet-and-Go: Finding Optimal Single Connecting Points Considering Companionship Preferences (Demo Paper). *Proc. of the 23<sup>rd</sup> ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems (ACM SIGSPATIAL 2015)*. Article #87 (<http://dx.doi.org/10.1145/2820783.2820785>). 2015.
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