Eleni Tzirita Zacharatou

Assistant Professor, IT University of Copenhagen
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Education

Ph.D. in Computer Science   2013 − 2019
École Polytechnique Fédérale de Lausanne (EPFL), Switzerland
Thesis: Efficient Query Processing for Spatial and Temporal Data Exploration
Advisor: Prof. Anastasia Ailamaki

Diploma (M. Eng.) in Electrical & Computer Engineering   2007 − 2013
National Technical University of Athens (NTUA), Greece
Thesis: Automatic Music Transcription
Advisor: Prof. Petros Maragos
GPA: 9.06/10

Academic Experience

IT University of Copenhagen (ITU)   Copenhagen, Denmark
Assistant Professor, Computer Science Department   May 2022 − now
- Member of the Data-Intensive Systems and Applications (DASYA) group
- Research Focus: Spatial Big Data Analytics

Technical University of Berlin (TUB)   Berlin, Germany
Postdoctoral Researcher, Computer Science Department   Oct 2019 − Apr 2022
- Member of the Database Systems and Information Management (DIMA) group
- Junior Fellow at BIFOLD
- Supervisor: Prof. Volker Markl

New York University (NYU)   New York, USA
Visiting Researcher, Tandon School of Engineering   Jul 2016 − Oct 2016
- Member of the Visualization, Imaging and Data Analysis (VIDA) group
- Supervisors: Prof. Juliana Freire and Dr. Harish Doraiswamy

École Polytechnique Fédérale de Lausanne (EPFL)   Lausanne, Switzerland
Doctoral Assistant, Computer Science Department   Sep 2013 − Aug 2019
- Member of the Data-Intensive Applications and Systems (DIAS) group
- Research Focus: Spatial and temporal data management for exploratory applications
- Advisor: Prof. Anastasia Ailamaki

École Polytechnique Fédérale de Lausanne (EPFL)   Lausanne, Switzerland
Research Intern, Computer Science Department   Jan 2013 − Aug 2013
- Member of the Data-Intensive Applications and Systems (DIAS) group
- Supervisor: Prof. Anastasia Ailamaki and Prof. Thomas Heinis

Honors and Awards

- Distinguished Reviewer Award, VLDB Conference   2022
- Junior Fellowship, Berlin Institute for the Foundation of Learning and Data (BIFOLD)   2021
- Best Demonstration Award, ACM SIGMOD Conference   2018
- Travel Award, ExploreDB Workshop (in conjunction with ACM SIGMOD), EUR 1K   2016
- Distinction in the Panhellenic Math Competition "Euclid", Hellenic Mathematical Society   2006

Publications Summary

Full papers at top-tier conferences and journals (VLDB/ICDE/CIDR/Inf. Syst.): 5
Other peer-reviewed conference papers (EDBT/SIGSPATIAL/SSDBM/BTW): 8
Peer-reviewed workshop and demonstration papers: 7
Papers under submission: 3
Number of citations: 245 and h-index: 9 (as per Google Scholar in August 2023)
Full list of publications: https://heltzi.github.io/publications.html

Invited Talks, Panels, and Conference Presentations

- 05/2023: Efficient Data Management for Modern Spatial Applications, NERDS (ITU) Seminar, Denmark
- 09/2022: Efficient Data Management for Modern Spatial Applications and the Internet of Moving Things, DIREC Seminar, Denmark
- 05/2022: Spatial and Temporal Data Management Panel, ICDE Conference, Online
- 09/2021: Agora-EO: A Unified Ecosystem for Earth Observation, Monthly Research Meeting, Department of Geo-information Processing, University of Twente, Online
- 08/2021: Spatio-Temporal Data System Panel, VLDB Conference, Online
- 01/2021: The Case for Distance-Bounded Spatial Approximations, CIDR Conference, Online
- 11/2019: Efficient Bundled Spatial Range Queries, SIGSPATIAL Conference, Chicago, USA
- 08/2019: Efficient Query Processing for Spatial and Temporal Data Exploration, Public Defense, EPFL, Switzerland
- 07/2019: GPU Rasterization for Real-Time Spatial Aggregation over Arbitrary Polygons, Hellenic Data Management Symposium (HDMS), Athens, Greece
- 02/2019: Interactive and Exploratory Spatio-Temporal Data Analytics, DIMA Research Seminar, TU Berlin, Germany
- 08/2018: GPU Rasterization for Real-Time Spatial Aggregation over Arbitrary Polygons, VLDB Conference, Rio de Janeiro, Brazil
- 06/2018: Interactive Exploration of Urban Data with GPUs, Short Presentation, IC Research Day, EPFL, Switzerland
- 04/2018: Improving Spatial Data Processing by Clipping Minimum Bounding Boxes, ICDE Conference, Paris, France
- 06/2017: Real-Time Spatial Aggregation using GPU Rasterization, EcoCloud Annual Event, Lausanne, Switzerland
- 09/2016: Indexing the brain, Data Science Lunch Talk, NYU Center for Data Science, New York, USA
- 06/2015: RUBIK: Efficient Threshold Queries on Massive Time Series, SSDBM Conference, San Diego, USA

Advising (Current)

- *Xenofon Chatziliadis*, PhD, TUB, Primary advisor: Prof. Volker Markl   Fall 2019 − now
- *Hanno Skowronek*, MSc Thesis, TUB, Primary advisor: Prof. Begüm Demir   Spring 2023 − now

Advising (Alumni)

- *Martin Kiefer*, PhD, TUB, Primary advisor: Prof. Volker Markl   Fall 2021 − Fall 2022
- *Carl Bruun & Rasmus Garbarsch*, BSc Thesis, ITU   Spring 2023
- *Gergo Gyori*, BSc Thesis, ITU   Spring 2023
- *Gereon Dusella*, MSc Thesis, TUB, Co-supervisor: H. Gavriilidis   Spring 2023
- *Peter Løffmann, Thomas Haugaard Mogensen, Zachery Kuntz*, MSc Research Project, ITU   Fall 2022
- *Laert Nuhu*, MSc Thesis, TUB, Co-supervisor: H. Gavriilidis   Spring 2022
- *Pablo Alberto Osinaga Arze*, MSc Thesis, TUB   Fall 2021
- *Iva Mihajlovska*, MSc Thesis, TUB   Spring 2021
- *Marcellus Prama Saputra*, BSc Thesis, TUB   Spring 2021
- *Robin Papke*, MSc Thesis, TUB   Fall 2020
- *Elena Beatriz Ouro Paz*, MSc Thesis, TUB   Spring 2020
- *Carlos E. Muniz Cuza*, MSc Thesis, TUB & Aalborg University,   Spring 2020
  Co-supervisors: Professors Nguyen Thi Thao Ho, Torben Bach Pedersen, Bin Yang
- *Vlad Mihaescu*, MSc Research Project, EPFL   Fall 2018
- *Maria Ilina*, Summer Intern, EPFL   Summer 2018
- *Parand Alizadeh*, Summer Intern, EPFL   Summer 2018
- *Chenxi Sun*, Summer Intern, EPFL   Summer 2015

Guided Research

- *Thanasis Georgiadis*, Approximating Polygons as Raster Interval Lists   Spring 2023
- *David Burell*, Workload Prediction for IoT Data Management Systems   Fall 2022
- *Felix Henze*, Efficient Specialized Spreadsheet Parsing   Spring 2022
- *Ahmet Kerem Aksoy*, Satellite Image Search in AgoraEO   Spring 2022
- *Christian Winter*, A Query-Cache Accelerated Data Structure   Fall 2021
  for Spatial Aggregation over Polygons

Other Mentoring Activities

- Mentor in the AI Grid network   2023 − now

Thesis Committee

- Martin Kiefer, PhD, TU Berlin (Advisor: Volker Markl)   2023
- Keven Richly, PhD, HPI (Advisor: Hasso Plattner)   2023

Midway Evaluation Committee

- Morten Tychsen Clausen, PhD, ITU (Advisor: Philippe Bonnet)   2023

Teaching

Term	Institute	Course Name	Role
Fall 2022, Fall 2023	ITU	Introduction to Database Systems	Course Manager & Responsible Lecturer

Fall 2021, Spring 2021	TUB	DBPRA: Datenbankpraktikum (Practical course on databases)	Responsible Lecturer
Fall 2020	TUB	AIM-3: Scalable Data Analysis and Data Mining	Lecturer
Fall 2020, Spring 2020, Fall 2019	TUB	BDASEM: Big Data Analytics Seminar	Lecturer
Spring 2020	TUB	BDAPRO: Big Data Analytics Project	Project Mentor
Fall 2019	TUB	DBSEM: Foundations of Database Systems Seminar	Lecturer
Fall 2018/2019, Spring 2014	EPFL	Information, Computation, Communication	Teaching Assistant
Spring 2018, Spring 2017	EPFL	Database Systems	Teaching Assistant
Fall 2017/2018	EPFL	Programming I (in C)	Teaching Assistant
Spring 2016	EPFL	Probability and Statistics	Teaching Assistant
Fall 2015/2016	EPFL	Computer Architecture	Teaching Assistant
Spring 2015	EPFL	Introduction to Database Systems	Teaching Assistant
Fall 2014/2015	EPFL	Introduction to Object Oriented Programming (in Java)	Teaching Assistant

Service

Organization:
- Co-Chair, Diversity and Inclusion, EDBT 2025
- Proceedings Chair, DEBS 2022
- Co-chair, BOSS Workshop 2020 (in conjunction with VLDB)

Program Committee:
- ACM SIGMOD: 2024, 2023, 2022, 2021 (Industrial track)
- VLDB: 2023, 2022
- EDBT: 2022
- VLDB PhD Workshop: 2023
- BTW: 2023 (Demo track)
- ACM SIGSPATIAL Workshop on Location-based Recommendations, Geosocial Networks and Geoadvertising (LocalRec): 2023
- PLDI Workshop on Distributions, Relational Algebra, Graphs, Semi-Rings, Tensors, and All That (DRAGSTERS): 2023
- IEEE International Conference on Cloud Engineering Workshop on Testing Distributed Internet of Things Systems (TDIS): 2022
- AI-ML Systems: 2021
- CIKM: 2018 (Short research papers track)

Journal Reviewer:
- VLDB Journal, 2021 − 2022
- Knowledge and Information Systems (KAIS) Journal, 2021 − 2022
- Big Data Research Journal, 2022

External Reviewer:
CIDR 2022, SIGMOD 2021, CIDR 2021, ICDE 2017

Panelist:
- Spatial and Temporal Data Management Panel, ICDE, May 2022
- Spatio-Temporal Data System Panel, VLDB, August 2021

Session Chair:
EDBT 2023, VLDB 2021, VLDB 2020

Department/University Level:
- Co-organizer, CS Lectures Series, ITU, 2022 − now
- Admissions Committee, Software Design Program, ITU, Spring 2023
- Assessment Committee for a PhD Position, ITU, Fall 2022 and Spring 2023
- Faculty Search Committee for a Full Professorship Position (W3) in "Big Data Engineering", TU Berlin, 2021

Media, Blogs, and Interviews

- 2023: *An Interview with Eleni Tzirita Zacharatou*, DIMA TUB webpage
- 2021: *Advancing Big Data Analytics: Post-Doctoral Research*, DataTalksClub podcast
- 2021: *BIFOLD welcomes the first six junior fellows*, BIFOLD webpage
- 2021: *The Case for Distance-Bounded Spatial Approximations*, The Agora Technology Blog, Medium
- 2018: *Student-teacher Duo from EPFL Wins Best Demonstration Award at SIGMOD 2018*, Ecocloud News
- 2018: *Tandon Team Takes Home Top Honors at Association for Computing Machinery Conference*, Tandon School of Engineering News

Languages
Greek (Native), English (Fluent), French (Fluent), German (Intermediate)

Extracurricular
I enjoy playing music - alone or in groups.
I have formally studied the piano, the violin, and music theory:
- 2010: Piano Teaching Diploma (Ptychio), Grade Excellent, Athenaeum Conservatory
- 2005: Classical Harmony Diploma (Ptychio), Heraklion Conservatory
- 1996 − 2009: Studies in violin, Heraklion Conservatory & Athenaeum Conservatory
- 2001 − 2010: Participation in choirs and orchestral ensembles