Constantinos Costa

— Curriculum Vitae —
Last Update: September 18, 2026

Rinnoco Ltd (https://rinnoco.com/) costa.c@rinnoco.com
Limassol, 3047, Cyprus https://costadb.com/

I. RESEARCH INTERESTS

Big Data Management and Mobile Computing, Data Storage and Databases, Distributed Query Processing, Spatial and Spatio-temporal Systems, AI/Machine Learning

II. EDUCATION

Ph.D. Computer Science, University of Cyprus 2013-2018
Thesis: Algorithms and Indexing Structures for Spatial Big Data

M.Sc. Computer Science, University of Cyprus 2011-2013
Thesis: Scalable Continuous All k Nearest Neighbors Queries

B.Sc. Computer Science, University of Cyprus 2007-2011
Thesis: SmartTrace: A Distributed Spatio-Temporal Similarity Search Framework using Android-based Smartphone

III. ENTREPRENEURIAL APPOINTMENTS

Co-Founder & Chief Executive Officer (CEO),
Rinnoco LTD (https://rinnoco.com), Limassol, Cyprus 10/2021-Current

IV. ACADEMIC APPOINTMENTS

Visiting Postdoctoral Researcher, DMSL Lab, University of Cyprus, Cyprus 06/2023-2025

Special Scientist, Dept. of Computer Science, University of Cyprus, Cyprus 09/2024-12/2025

Visiting Research Assistant Professor,
Dept. of Computer Science, University of Cyprus, Cyprus 09/2023-12/2023

Research Associate, ADMT Lab, University of Pittsburgh, USA 01/2019-12/2022

Visiting Research Assistant Professor,
Dept. of Computer Science, University of Pittsburgh, USA 07/2021-12/2022

Visiting Lecturer, Dept. of Computer Science, University of Pittsburgh, USA 06/2020-06/2021

Visiting Research Scholar & Instructor, Dept. of Computer Science,
University of Pittsburgh, USA 01/2019-06/2020

Special Scientist, Dept. of Computer Science, University of Cyprus, Cyprus 09/2018-01/2019

Research Assistant, DMSL Lab, Dept. of Computer Science, University of Cyprus, Cyprus 2010-2018

Teaching Assistant, University of Cyprus, Cyprus 2011-2018

V. PROFESSIONAL DEVELOPMENT & TRAINING

New Product Development (NPD) Intensive Course,
Research and Innovation Foundation (RIF), Cyprus 01/2026-03/2026

- Completed a 38-hour intensive course based on the Product Development and Management Association (PDMA) Body of Knowledge, covering product innovation strategy, product portfolio management, product development processes, design and development tools, market research, product teams, and NPDP certification preparation.

VI. RESEARCH AND DEVELOPMENT PROJECTS

- **09/2026-Current (Co-PI):** "Retrieval and Compression-aware Data Layer for Advanced Information Management", RIF Proposal Number: EXCELLENCE/0925/0331, Rinnoco Ltd.
- **09/2025-Current (PI):** "A Platform-Ready Data Compression Solution for Optimized Big Data Storage", RIF Proposal Number: PRE-SEED/0824/0230, Rinnoco Ltd.
- **07/2025-Current (Co-PI):** "Strong Interactions on a spacetime Lattice: Quantum Chromodynamics and its Supersymmetric version", RIF Proposal Number: EXCELLENCE/0524/0001, Rinnoco Ltd.
- **05/2025-Current (PI):** "Supersymmetric Quantum Field Theories and Software Development for the Lattice Formulation", RIF Proposal Number: EXCELLENCE/0524/0208, Rinnoco Ltd.
- **06/2024-02/2025 (PI):** "Big Data Compression Tool using Attribute-based Signatures", RIF Proposal Number: CONCEPT/0823/0002, Rinnoco Ltd.
- **04/2024-12/2025 (Co-PI):** "Automated calculation of Feynman Diagrams on the Lattice", RIF Proposal Number: CONCEPT/0823/0052, Rinnoco Ltd.
- **01/2022-Current (Software Developer/Analyst/System Architect):** "Data management system to support the clinical health imaging portability standards", Psychology Software Tools Inc (PST).
- **07/2020-07/2021 (Co-PI/Software Developer):** "VA Quantitative Quality Assurance (VA QQA) MRIS", US Department of Veteran Affairs.
- **07/2020-07/2021 (Co-PI/Software Developer/Solution Architect):** "HealthDist: Localization Accuracy Evaluation for Social Distancing", Pittsburgh Foundation & NIH U01HL137159.
- **01/2015-12/2015 (Research Assistant/Software Developer/Analyst/System Architect):** "Big Data Processing of Telco Data", MTN Cyprus Ltd., Cyprus and University of Cyprus.
- **01/2014-12/2014 (Research Assistant/Android Developer):** "Spatio-Temporal Mobile Data Management", Geomatic Technologies Ltd., Cyprus.
- **11/2012-12/2013 (Research Assistant/Backend Developer):** "AppCampus Award: Rayzit", Industrial Grant by Aalto University, Microsoft, Nokia.

VII. AWARDS & HONORS

- IEEE MDM'21 - Best Industry and Application Paper Award at MDM 2021, "A Context, Location and Preference-Aware System for Safe Pedestrian Mobility", 22nd IEEE International Conference on Mobile Data Management (MDM'21), Toronto, Canada, June 15 - June 18, 2021.

- IEEE MDM'21 - Best Demo Award at MDM 2021, "HealthDist: A Context, Location and Preference-Aware System for Safe Navigation", 22nd IEEE International Conference on Mobile Data Management (MDM'21), Toronto, Canada, June 15 - June 18, 2021.
- IEEE MDM'18 - Best of MDM 2018 (Geoinformatica - Springer - journal invitation), "Decaying Telco Big Data with Data Postdiction", 19th IEEE International Conference on Mobile Data Management (MDM'18), Aalborg, Denmark, June 26 - June 28, 2018.
- IEEE MDM'18 - Best Demo Award, "FMS: Managing Crowdsourced Indoor Signals with the Fingerprint Management Studio", 19th IEEE International Conference on Mobile Data Management (MDM'18), Aalborg, Denmark, June 26 - June 28, 2018.
- Among the finalists of the 2019 ERCIM Cor Baayen Young Researcher Award for his PhD Thesis titled: "Algorithms and Indexing Structures for Spatial Big Data", 2018.
- Participation in the ACM Europe Summer School on Data Science, 2018.
- Participation in the Onassis Foundation Science Lecture Series in Computer Science devoted to "BIG DATA and Applications", 2017.
- Travel Grant Award among 200 invitees globally to attend the 4th Heidelberg Laureate Forum (HLF), Heidelberg, Germany, Sept 18 - 23, 2016.
- PI: New Researcher Program, University of Cyprus, Ph.D. Fellowship for C. Costa, Advisor: Demetrios Zeinalipour-Yazti, 2017.
- PI: New Researcher Program, University of Cyprus, Ph.D. Fellowship for C. Costa, Advisor: Demetrios Zeinalipour-Yazti, 2016.
- Young Researcher: "New Researcher Program", University of Cyprus, PhD Fellowship for C. Costa, Advisor: Demetrios Zeinalipour-Yazti, 2014.
- Appcampus Award, "Rayzit: Crowd Messaging" by Microsoft, Nokia and Aalto University (Finland), 2013.
- Startup prize award at HackCyprus sponsored by the CIIM Entrepreneurship and Innovation Centre, 2013.
- Best Mobile Application Award at HackCyprus sponsored by Cocoon Creations, 2013.
- Ranked 1st place at the Microsoft ImagineCup national competition with *iDOC* implementation, 2011.

VIII. RESEARCH GRANTS AND FUNDING

- **EXCELLENCE/0925/0331**, Cyprus' Research Promotion Foundation RESTART programme, under project RECLAIM, 2026.
  More: https://rinnoco.com/projects/reclaim.html

- **PRE-SEED/0824/0230**, Cyprus' Research Promotion Foundation RESTART programme, under project PLATCOM, 2025.
  More: https://rinnoco.com/projects/platcom.html

- **EXCELLENCE/0524/0001**, Cyprus' Research Promotion Foundation RESTART programme, under project StrongILA, 2025.
  More: https://rinnoco.com/projects/strongila.html

- **EXCELLENCE/0524/0208**, Cyprus' Research Promotion Foundation RESTART programme, under project SUPER_QUANTA, 2025.
  More: https://rinnoco.com/projects/super_quanta.html

- **CONCEPT/0823/0002**, Cyprus' Research Promotion Foundation RESTART programme, under project COMPASS, 2024.
  More: https://rinnoco.com/projects/compass.html

- **CONCEPT/0823/0052**, Cyprus' Research Promotion Foundation RESTART programme, under project FEDILA, 2024.
  More: https://rinnoco.com/projects/fedila.html

- **INNOVOUCHERS/0722/0025**, Cyprus' Research Promotion Foundation RESTART programme, under project SIBACO, 2023.
  More: https://rinnoco.com/projects/sibaco.html

- **The Pittsburgh Foundation Grant**, Healthy Social Distancing Project, 2020 - 2021.
  More: https://db.cs.pitt.edu/healthdist

IX. PUBLICATIONS

Google Scholar Citations: 549; h-index[1]: 14; i10-index[2]: 18

JOURNAL AND MAGAZINE PAPERS

J10. **"A Multiple Compression Approach using Attribute-based Signatures [version 2; peer review: 2 approved]"**,
Constantinos Costa, Panos Chrysanthis, Herodotos Herodotou, Marios Costa, Efstathios Stavrakis, and Nicolas Nicolaou, Open Research Europe, **Volume 5**, **2026**.

J9. **"Fine-tunings and renormalization of gluino bilinear operators in lattice SYM with Stout-Smeared links"**,
Marios Costa, Panos K. Chrysanthis, **Constantinos Costa**, Salomi Dimou, Gregoris Spanoudes, and Haralambos Panagopoulos, **Journal of Physics G: Nuclear and Particle Physics**, accepted, arXiv:2601.11345 [hep-lat], **2026**.

J8. **"A Multiple Compression Approach using Attribute-based Signatures [version 1; peer review: 2 approved with reservations]"**,
Constantinos Costa, Panos Chrysanthis, Herodotos Herodotou, Marios Costa, Efstathios Stavrakis, and Nicolas Nicolaou, Open Research Europe, **Volume 5**, **2025**.

J7. **"A Sustainable Energy Management Framework for Smart Homes"**,
Soteris Constantinou, **Constantinos Costa**, Andreas Konstantinidis, Panos K. Chrysanthis and Demetrios Zeinalipour-Yazti IEEE Transactions on Sustainable Computing **(TSUSC '24)**, IEEE Computer Society, Volume x, Pages: x-x, Los Alamitos, CA, USA, **2024**.

J6. **"A Blockchain Datastore for Scalable IoT Workloads using Data Decaying**,
Panagiotis Drakatos, **Constantinos Costa**, Andreas Konstantinidis, Panos K. Chrysanthis and Demetrios Zeinalipour-Yazti Distributed and Parallel Databases **(DAPD '24)**, Springer Nature, Volume xx, Pages: 41 pages, **2024**.

[1] h-index is the largest number h such that h publications have at least h citations.
[2] i10-index is the number of publications with at least 10 citations.

J5. "ASTRO: Reducing COVID-19 Exposure through Contact Prediction and Avoidance",
Chrysovalantis Anastasiou, **Constantinos Costa**, Panos K. Chrysanthis, Cyrus Shahabi, Demetrios Zeinalipour-Yazti, ACM Trans. Spatial Algorithms Syst. Association for Computing Machinery **(TSAS'22)**, Volume 8, New York, NY, USA, **2022**.

J4. "Continuous Decaying of Telco Big Data with Data Postdiction",
Constantinos Costa, Andreas Charalampous, Andreas Konstantinidis, Demetrios Zeinalipour-Yazti, Mohamed F. Mokbel, International Journal on Advances of Computer Science for Geographic Information Systems **(GeoInformatica '19)**, 23(4): 533-557, **2019**.

J3. "Crowdsourcing Emergency Data in Non-Operational Cellular Networks",
Georgios Chatzimilioudis, **Constantinos Costa**, Demetrios Zeinalipour-Yazti, Wang-Chien Lee, **Information Systems (InfoSys)**, Special Issue on Large-Scale Data Management for Mobile Applications, 64: 292-302, **2017**.

J2. "Distributed In-Memory Processing of All k Nearest Neighbor Queries",
Georgios Chatzimilioudis, **Constantinos Costa**, Demetrios Zeinalipour-Yazti and Wang-Chien Lee and Evaggelia Pitoura, **Transactions on Knowledge and Data Engineering (TKDE)**, IEEE Computer Society, 28(4): 925-938, **2016**.

J1. "Crowdsourced trace similarity with smartphones",
Demetrios Zeinalipour-Yazti, Christos Laoudias, **Costantinos Costa**, Michalis Vlachos, Dimitrios Gunopulos, **IEEE Transactions on Knowledge and Data Engineering (TKDE)**, IEEE Computer Society, 25(6): 1240-1253, **2013**.

CONFERENCE/WORKSHOP/DEMO PAPERS

C36. "Rethinking Big Data Scale: Balancing Accuracy, Collaboration, and Storage",
Panos K. Chrysanthis, Constantinos Costa, *Proceedings of the 2025 IEEE 11th International Conference on Collaboration and Internet Computing,* **(CIC 2025)**, 128-135, **2025**.

C35. "Self-Energy and Interaction Effects in Graphene from a Quantum Field Theory Approach",
Marios Costa, Salomi Dimou, **Constantinos Costa**, Panos K. Chrysanthis, and Haralambos G. Panagopoulos, Poster at *XXXIX Panhellenic Conference on Solid State Physics & Materials Science* **(FSK 2025)**, Poster Session B, B.06, Paphos, Cyprus, September 14–17, **2025**.

C34. "A Framework for Continuous kNN Ranking of EV Chargers with Estimated Components",
Soteris Constantinou, Constantinos Costa, Andreas Konstantinidis, Mohamed F. Mokbel, Demetrios Zeinalipour-Yazti, *Proceedings of the 40th IEEE International Conference on Data Engineering,* **(ICDE 2024)**, 13 pages, Utrecht, Netherlands, May 13 - May 17, **2024**.

C33. "EcoCharge: A Framework for Sustainable Electric Vehicles Charging",
Soteris Constantinou, Dimitris Papazachariou, Constantinos Costa, Andreas Konstantinidis, Mohamed F. Mokbel, Demetrios Zeinalipour-Yazti, *Proceedings of the 25th IEEE International Conference on Mobile Data Management,* **(MDM 2024)**, 4 pages, Brussels, Belgium, June 24 - June 27, **2024**.

C32. "GIO.G: A Generator for Indoor-Outdoor Graphs to Simulate and Analyze Urban Environments",
Vasilis E. Sarris, Connor P. Sweeney, Sean M. Linton, Brian T. Nixon, Panos K. Chrysanthis, Constantinos Costa, *Proceedings of the 25th IEEE International Conference on Mobile Data Management,* **(MDM 2024)**, 4 pages, Brussels, Belgium, June 24 - June 27, **2024**.

C31. "Remembering the Forgotten: Clustering, Outlier Detection, and Accuracy Tuning in a Postdiction Pipeline",
Anna Baskin, Scott Heyman, Brian T. Nixon, **Constantinos Costa**, Panos K. Chrysanthis, *Proceedings of the 39th IEEE International Conference on Data Engineering Workshops,* **(ADBIS 2023)**, 46-55, **2023**.

C30. "Recommending the Least Congested Indoor-Outdoor Paths without Ignoring Time", Sarris, Vasilis Ethan and Chrysanthis, Panos K. and **Constantinos Costa**, *Proceedings of the 18th International Symposium on Spatial and Temporal Data* **(SSTD '23)**, Calgary, AB, Canada Association for Computing Machinery, 121–130, 2023.

C29. "RETSINA: Reproducibility and Experimentation Testbed for Signal-Strength Indoor Near Analysis",
Anna Baskin, Scott Heyman, Brian T. Nixon, **Constantinos Costa**, Panos K. Chrysanthis and Christos Laoudias, *Proceedings of the Intl. Conference on Indoor Positioning and Indoor Navigation* **(IPIN '23)**, xx-xx, 2023.

C28. "An IoT Data System for Solar Self-Consumption",
Soteris Constantinou, Savvas Polycarpou, **Constantinos Costa**, Andreas Konstantinidis, K. Chrysanthis and Demetrios Zeinalipour-Yazti, *Proceedings of the 24st IEEE International Conference on Mobile Data Management,* **(MDM '23)**, **2023**.

C27. "GreenCap: A Platform for Solar Self-Consumption using IoT Data",
Soteris Constantinou, Savvas Polycarpou, **Constantinos Costa**, Andreas Konstantinidis, K. Chrysanthis and Demetrios Zeinalipour-Yazti, *Proceedings of the 24st IEEE International Conference on Mobile Data Management,* **(MDM '23)**, **2023**.

C26. "CAPRIO with Inclusive Pedestrian Path Recommendations",
Brian T. Nixon, Chen, Konduru, Liu, **Constantinos Costa** and Panos K. Chrysanthis, *Proceedings of the 24st IEEE International Conference on Mobile Data Management,* **(MDM '23)**, **2023**.

C25. "Towards a Signature Based Compression Technique for Big Data Storage",
Constantinos Costa, Panos K. Chrysanthis, Marios Costa Efstathios Stavrakis and Nicolas Nicolaou, *Proceedings of the 39th IEEE International Conference on Data Engineering Workshops,* **(ICDE 2023)**, 100-104, **2023**.

C24. "Efficient Detection of COVID-19 Exposure",
Brian Nixon, Rakan Alseghayer, Benjamin Graybill, Xiaozhong Zhang, **Constantinos Costa**, Panos K. Chrysanthis, *Proceedings of the 22nd IEEE International Conference on Mobile Data Management,* **(MDM '22)**, **2022**.

C23. "ASTRO-K: Finding Top-k Sufficiently Distinct Indoor-Outdoor Paths",
Vasilis Ethan Sarris, **Constantinos Costa**, and Panos K. Chrysanthis, *Proceedings of the 1st IEEE Intl. Workshop on ALgorithms for Indoor Architectures and Systems,* **(ALIAS 2022)**, 372-377, **2022**.

C22. "Thinking Inclusively with CAPRIO",
Lucas W. Leiby, **Constantinos Costa**, and Panos K. Chrysanthis, *Proceedings of the 1st IEEE Intl. Workshop on ALgorithms for Indoor Architectures and Systems,* **(ALIAS 2022)**, 378-380, **2022**.

C21. "EPICGen: An Experimental Platform for Indoor Congestion Generation and Forecasting",
Chrysovalantis Anastasiou, **Constantinos Costa**, Panos K. Chrysanthis, *Proceedings of the VLDB Endowment* **(PVLDB)**, 14(14): 2803-2806, **2021**.

C20. "A Context, Location and Preference-Aware System for Safe Pedestrian Mobility",
Constantinos Costa, Brian Nixon, Sayantani Bhattacharjee, Benjamin Graybill, Demetrios Zeinalipour-Yazti, Walter Schneider, Panos K. Chrysanthis, *Proceedings of the 22nd IEEE International Conference on Mobile Data Management,* **(MDM '21)**, **2021**.

C19. "HealthDist: A Context, Location and Preference-Aware System for Safe Navigation",
Brian Nixon, Sayantani Bhattacharjee, Benjamin Graybill, **Constantinos Costa**, Sudhir Pathak, Walter Schneider, Panos K. Chrysanthis, *Proceedings of the 22nd IEEE International Conference on Mobile Data Management,* **(MDM '21)**, **2021**.

C18. "The Anyplace 4.0 IoT Localization Architecture",
Paschalis Mpeis, Thierry Roussel, Manish Kumar, **Constantinos Costa**,Christos Laoudias, Denis Capot-Ray Demetrios Zeinalipour-Yazti, *Proceedings of the 21st IEEE International Conference on Mobile Data Management,* **(MDM '20)**, **2020**.

C17. "CAPRIO v2.0: A Context-Aware Unified Indoor-Outdoor Path Recommendation System",
Constantinos Costa, Xiaoyu Ge, Evan McEllhenney, Evan Kebler, Panos K. Chrysanthis and Demetrios Zeinalipour-Yazti *of the 21th IEEE International Conference on Mobile Data Management* **(MDM 2020)**, June 30 - July 3, Versailles, France, **2020**.

C16. "CAPRIO: Context Aware Path Recommendation exploiting Indoor and Outdoor information",
Constantinos Costa, Xiaoyu Ge, and Panos K. Chrysanthis, *Proceedings of the 1st IEEE Intl. Workshop on ALgorithms for Indoor Architectures and Systems,* **(ALIAS 2019)**, 431-436, **2019**.

C15. "CAPRIO: Graph-based Integration of Indoor and Outdoor Data for Path Discovery",
Constantinos Costa, Xiaoyu Ge, and Panos K. Chrysanthis, *Proceedings of the VLDB Endowment* **(PVLDB)**, 12(12): 1878-1881, **2019**.

C14. "Telco Big Data Research and Open Problems",
Constantinos Costa and Demetrios Zeinalipour-Yazti, *Proceedings of the 35th IEEE International Conference on Data Engineering* **(ICDE 2019)**, 2056-2059, **2018**.

C13. "Decaying Telco Big Data with Data Postdiction",
Constantinos Costa, Andreas Charalampous, Andreas Konstantinidis, Demetrios Zeinalipour-Yazti, and Mohamed F. Mokbel, *Proceedings of the 19th IEEE International Conference on Mobile Data Management,* **(MDM 2018)**, 106-115, **2018**.

C12. "Telco Big Data: Current State & Future Directions",
Constantinos Costa and Demetrios Zeinalipour-Yazti, *Proceedings of the 19th IEEE International Conference on Mobile Data Management,* **(MDM 2018)**, 11-14, **2018**.

C11. "FMS: Managing Crowdsourced Indoor Signals with the Fingerprint Management Studio",
Marileni Angelidou, **Constantinos Costa**, Artyom Nikitin and Demetrios Zeinalipour-Yazti, *Proceedings of the 19th IEEE International Conference on Mobile Data Management,* **(MDM 2018)**, 288-289, June 25 - June 28, 2018, AAU, Aalborg, Denmark, **2018**.

C10. "TBD-DP: Telco Big Data Visual Analytics with Data Postdiction",
Constantinos Costa, Andreas Charalampous, Andreas Konstantinidis, Demetrios Zeinalipour-Yazti, and Mohamed F. Mokbel *Proceedings of the 19th IEEE International Conference on Mobile Data Management,* **(MDM 2018)**, 280-281, June 25 - June 28, 2018, AAU, Aalborg, Denmark, **2018**.

C9. **"Towards Real-Time Road Traffic Analytics using Telco Big Data"**, **Constantinos Costa**, Georgios Chatzimilioudis, Demetrios Zeinalipour-Yazti and Mohamed F. Mokbel, *Proceedings of the 11th Intl. Workshop on Real-Time Business Intelligence and Analytics* **(BIRTE 2017)**, collocated with VLDB 2017, 5:1–5:5, **2017**.

C8. **"Efficient Exploration of Telco Big Data with Compression and Decaying"**, **Constantinos Costa**, Georgios Chatzimilioudis, Demetrios Zeinalipour-Yazti, Mohamed F. Mokbel, *Proceedings of the 33rd IEEE International Conference on Data Engineering* **(ICDE 2017)**, 1332-1343, **2017**.

C7. **"SPATE: Decaying and Exploration of Telco Big Data"**, **Constantinos Costa**, Georgios Chatzimilioudis, Demetrios Zeinalipour-Yazti, Mohamed F. Mokbel, Demo at *Proceedings of the 33nd International Conference on Data Engineering* **(ICDE 2017)**, 1419-1420, **2017**.

C6. **"Distributed In-Memory Processing of All k Nearest Neighbor Queries"**, Georgios Chatzimilioudis, **Constantinos Costa**, Demetrios Zeinalipour-Yazti and Wang-Chien Lee and Evaggelia Pitoura, *Proceedings of the 32nd IEEE International Conference on Data Engineering* **(ICDE 2016)**,1490-1491, **2016**.

C5. **"Rayzit: An Anonymous and Dynamic Crowd Messaging Architecture"**, **Constantinos Costa**, Chrysovalantis Anastasiou, Georgios Chatzimilioudis and Demetrios Zeinalipour-Yazti *Proceedings of the 3rd IEEE International Workshop on Mobile Data Management Mining and Computing on Social Networks collocated with IEEE MDM '15 (***Mobisocial 2015***)*, (2):98-103, **2015**.

C4. **"Managing Smartphone Testbeds with SmartLab"**, George Larkou, **Constantinos Costa**, Panayiotis K. Andreou, Andreas Konstantinides and Demetrios Zeinalipour-Yazti *Proceedings of the 27th USENIX Large Installation System Administration Conference* (**LISA 2013)**, 115-132, **2013**.

C3. **"Demo: A Programming Cloud of Smartphones"**, Andreas Konstantinidis, **Constantinos Costa**, George Larkou and Demetrios Zeinalipour-Yazti, *The 10th International Conference on Mobile Systems, Applications and Services* (**MobiSys 2012)**, 465-466, **2012**.

C2. **An Indoor Trajectory Comparison Framework for Android Smartphones**, Christos Laoudias, **Constantinos Costa**, Demetrios Zeinalipour-Yazti, Christos G. Panayiotou, Demo at the International Conference on Indoor Positioning and Indoor Navigation (**IPIN 2011**), **2011**.

C1. **"SmartTrace: Finding Similar Trajectories in Smartphone Networks without Disclosing the Traces"**, **Constantinos Costa**, Christos Laoudias, Demetrios Zeinalipour-Yazti, Dimitrios Gunopulos Demo at 27th International Conference on Data Engineering March (**ICDE 2011**), 1288-1291, **2011**.

BOOK CHAPTERS

B1. **"1 - Challenges of Fingerprinting in Indoor Positioning and Navigation"**, Antoni Pérez-Navarro and Joaquín Torres-Sospedra and Raul Montoliu and Jordi Conesa and Rafael Berkvens and Giuseppe Caso and **Constantinos Costa** and Nicola Dorigatti and Noelia Hernández and Stefan Knauth and Elena Simona Lohan and Juraj Machaj and Adriano Moreira and Pawel Wilk, **Geographical and Fingerprinting Data to Create Systems for Indoor Positioning and Indoor/Outdoor Navigation**, A volume in Intelligent Data-Centric Systems, Academic Press, Pages: 1 - 20, ISBN: 978-0-12-813189-3, **2019**.

TALKS & PRESENTATIONS

- **Invited Talk**, *"Big Data Storage: From Curiosity to Impact - Research, Innovation, and Product at Rinnoco Ltd'*, *EPL202*, March 26, University of Cyprus, Nicosia, Cyprus, **2026**.
- **Pitch Presentation**, *"Rinnoco: AI-driven Data Compression Technology"*, *Deep Tech Battles – Frontier Category, Slush 2025, swisstech pavilion*, November 20, **2025**. Selected as a finalist in the Frontier category among 32 deep-tech startup finalists from 91 applications across 16 countries.
- **Invited Talk**, *"Advancing Big Data Storage with Machine Learning at Rinnoco Ltd "*, September 25, ampere University in Tampere, Finland, **2025**.
- **Invited Talk**, *"Innovative Big Data Tools and Systems for Data Storage Efficiency"*, *COMPASS Project*, January 10, University of Pittsburgh, PA, USA, **2025**.
- **Invited Talk**, *"Innovative Big Data Tools and Systems for Data Storage Efficiency'*, *EPL202*, March 19, University of Cyprus, Nicosia, Cyprus, **2025**.
- **Invited Talk**, *"Innovative Big Data Analytics and Applications"*, *ACSC115*, November 27, Frederick University, Nicosia, Cyprus, **2024**.
- **Invited Talk**, *"Innovative Big Data Analytics and Applications"*, *EPL202*, March 1, University of Cyprus, Nicosia, Cyprus, **2024**.
- **Invited Talk**, *"Innovative Big Data Analytics and Applications"*, *The EuroCC-2 Seminar Series*, November 8, The Cyprus Institute, Nicosia, Cyprus, **2023**.
- **Presentation**, *"Towards a Signature Based Compression Technique for Big Data Storage"*, *The 14th IEEE International Workshop on Self-Managing Database Systems (SMDB 2023 @ ICDE 2023*,April 3 – 7, Anaheim, California, USA, **2023**.
- **Presentation**, *"Thinking Inclusively with CAPRIO"*, *The 2nd IEEE International Workshop on ALgorithms for Indoor Architectures and Systems (ALIAS 2022 @ MDM 2022*,June 6 – 9, Paphos, Cyprus, **2022**.
- **Demo Presentation**, *"CAPRIO v2.0: A Context-Aware Unified Indoor-Outdoor Path Recommendation System"*, *he 21st IEEE International Conference on Mobile Data Management*, June 30 - July 3, Versailles, France, **2020**.
- **Demo Presentation**, *"CAPRIO: Graph-based Integration of Indoor and Outdoor Data for Path Discovery"*, *The 45th International Conference on Very Large Data Bases (VLDB'19)*, Los Angeles, California, August 26 - August 30, **2019**.
- **Presentation**, *"Telco Big Data Research and Open Problems"*, The the 35th IEEE International Conference on Data Engineering (ICDE 2019), 2056-2059, Macao, Macao, April 8 - April 11, **2019**.
- **Presentation**, *"Towards Real-Time Road Traffic Analytics using Telco Big Data"*, The 11th Intl. Workshop on Real-Time Business Intelligence and Analytics, collocated with VLDB 2017 (BIRTE '17), Munich, Germany, August 28, **2017**.
- **Demo Presentation**, *"SPATE: Compacting and Exploring Telco Big Data"*, The 33rd IEEE International Conference on Data Engineering (ICDE 2017), San Diego, CA, USA, April 19, **2017**.
- **Presentation**, *"Efficient Exploration of Telco Big Data with Compression and Decaying"*, The 33rd IEEE International Conference on Data Engineering (ICDE 2017), San Diego, CA, USA, April 19, **2017**.

- **Presentation**, *"Anyplace Indoor Information Service"*, Symposium on Challenges of Fingerprinting in Indoor Positioning and Navigation, Open University of Catalonia, Barcelona, Spain, May 3, **2016**.
- **Presentation**, *"Managing Smartphone Testbeds with SmartLab"*, 27th USENIX Large Installation System Administration Conference ' (LISA '13), Washington D.C., USA, November 7, **2013**.
- **Presentation**, *"Trajectory Similarity with SmartTrace"*, Final Conference of MOVE COST Action IC903, Vienna, Austria, Sept 30 - Oct 1, 2013, October 1, **2013**.
- **Presentation**, *"Data Management in Smartphone Networks (for High School Students)"*, 2nd Computer Science Day for High School Students, University of Cyprus, Nicosia, Cyprus, March 19, **2011**.

X. DEPARTMENTAL SERVICE

- **Judge**, 6th SteelHacks hackathon hosted at the University of Pittsburgh, 2020.
- **Mentor**, 5th SteelHacks hackathon hosted at the University of Pittsburgh, 2019.
- **Evaluator**, Second ACM ICPC (Inter-Collegiate Programming Competition) Cyprus Competition, 2018.
- **Evaluator/ Organizer**, 6th National Logipaignion Contest for Elementary and High School Students, 2014.

XI. PROFESSIONAL ACTIVITY & MEMBERSHIPS

- **Editorial Boards:**
  - **Special Issue Lead Guest Editor**, "Special Issue on Self-Managing and Hardware-Optimized Database Systems 2022", Special Issue in Distributed and Parallel Databases journal, Editors-in-Chief: Mohamed Mokbel (University of Minnesota, MN, USA) and Divyakant Agrawal (University of California, Santa Barbara, CA, USA), **2022 - 2023**.
  - **Special Issue Guest Editor**, "Special Issue on Self-Managing and Hardware-Optimized Database Systems 2020", Special Issue in Distributed and Parallel Databases journal, Editors-in-Chief: Mohamed Mokbel (University of Minnesota, MN, USA) and Divyakant Agrawal (University of California, Santa Barbara, CA, USA), **2020 - 2021**.
- **Organizing Committee Member:**
  - **Program Committee Member** The 8th IEEE International Workshop on Big Spatial Data (BSD 2024), Dec 15 to Dec 18, Washington DC, USA, **2024**.
  - **Program Committee Member** The 7th International Workshop on Big Data Visual Exploration and Analytics (BigVis2024), August 30 2024,Guangzhou, China, **2024**.
  - **Executive Online Platforms Chair** The 24rd IEEE International Conference on Mobile Data Management (MDM 2023), July 3 - July 6, Singapore, **2023**.
  - **Program Chair** Self-managing Database Systems (SMDB 2023), 3 APRIL 2023, Anaheim, California, USA, **2023**.
  - **Session Chair/Online Platform Chair** The 23rd IEEE International Conference on Mobile Data Management (MDM 2022),June 6 – 9, 2022, Paphos, Cyprus, **2022**.
  - **Program Chair** Self-managing Database Systems (SMDB 2022), 9 MAY 2022 , Kuala Lumpur, Malaysia, **2022**.

- **Session Chair** 47th International Conference on Very Large Data Bases (VLDB 2021), August 16-20, Copenhagen, Denmark, 2021, **2021**.
- **PhD Forum Chair** 22nd IEEE International Conference on Mobile Data Management (MDM'21), Toronto, Canada, June 15 - June 18, **2021**.
- **Executive Online Platform Chair** 22nd IEEE International Conference on Mobile Data Management (MDM'21), Toronto, Canada, June 15 - June 18, **2021**.
- **Workshops Proceedings Chair** 24th International Conference on Extending Database Technology (EDBT 2021), March 23 – 26, 2021 - Nicosia, Cyprus, **2021**.
- **Vice Program/Communication Chair** Self-managing Database Systems (SMDB 2021), April 19, 2021 - Crete, Greece, **2021**.
- **Vice Program/Communication Chair** Self-managing Database Systems (SMDB 2020), April 20, 2020 - Dallas, Texas, **2020**.
- **Vice Program Chair** Self-managing Database Systems (SMDB 2019), April 8, 2019 - Macau, **2019**.
- **Webmaster** Data Management Day, DMD'19, June 19, 2019 - Nicosia, Cyprus, **2019**.
- **Webmaster** 16th Hellenic Data Management Symposium (HDMS 2018), July 2-4, 2018 - Larnaca, Cyprus, **2018**.
- **Webmaster** 3rd International Workshop On Human Mobility Computing and Privacy (HuMoComP 2015), held in conjunction with the 16th IEEE MDM 2015, June 18, 2015 - Pittsburgh, PA, USA, **2015**.

• **Referee for Journals and Magazines:**

- TSAS - Transactions on Spatial Algorithms and Systems, 2025.
- TSAS - Transactions on Spatial Algorithms and Systems, 2024.
- CSUR - Computing Surveys, 2023.
- TSAS - Transactions on Spatial Algorithms and Systems, 2023.
- TSAS - Transactions on Spatial Algorithms and Systems, 2021.
- VLDB - Very Large Data Bases, 2021.
- DAPD - Distributed and Parallel Databases, 2021.
- TSAS - Transactions on Spatial Algorithms and Systems, 2020.
- DAPD - Distributed and Parallel Databases, 2020.
- COMP - Computing Journal, 2019.
- IJCIS - International Journal of Cooperative Information Systems, 2019.
- COMP - Computing Journal, 2018.
- FGCS - InFuture Generation Computer Systems Journal, 2018.

• **External Referee for Workshops:**

- IEEE BSD - International Workshop on Big Spatial Data, 2024.
- BigVis - International Workshop on Big Data Visual Exploration and Analytics, 2024.
- IEEE ALIAS - Intl. Workshop on ALgorithms for Indoor Architectures and Systems, 2022.
- BigMine - Intl. Workshop on Big Data, IoT Streams and Heterogeneous Source Mining, 2019.
- IEEE ALIAS - Intl. Workshop on ALgorithms for Indoor Architectures and Systems, 2019.
- IEEE MobiSocial (MDM) - Intl. Workshop on Mobile Data Management, Mining, and Computing on Social Networks, 2015.

• **External Referee for Conferences/Symposiums:**

- EDBT/ICDT Joint Conference, 2025.
- ACM SIGSPATIAL - Intl. Conf. on Advances in GIS, 2024.
- IEEE ICDE - Intl. Conference on Data Engineering, 2024.
- ACM SIGSPATIAL - Intl. Conf. on Advances in GIS, 2024.
- ACM SIGMOD - Intl. Management of Data Conference, 2024.
- ACM SIGSPATIAL - Intl. Conf. on Advances in GIS, 2023.
- ACM SIGMOD - Intl. Management of Data Conference, 2022.
- ACM SIGSPATIAL - Intl. Conf. on Advances in GIS, 2021.
- ACM SIGMOD - Intl. Management of Data Conference, 2021.
- IEEE MDM - Intl. Conference on Mobile Data Management, 2021.
- VLDB - Very Large Data Bases Conference, 2021.
- IEEE ICDE - Intl. Conference on Data Engineering, 2021.
- IEEE MDM - Intl. Conference on Mobile Data Management, 2020.
- IEEE ICDE - Intl. Conference on Data Engineering, 2020.
- EDBT/ICDT - Intl. Conference on Extending Database Technology, 2020.
- EDBT/ICDT - Intl. Conference on Extending Database Technology, 2019.
- CIKM - Intl. Conference on Extending Database Technology, 2018.
- IEEE MDM - Intl. Conference on Mobile Data Management, 2018.
- EDBT/ICDT - Intl. Conference on Extending Database Technology, 2018.
- IEEE TMC - Transactions on Mobile Computing,2017.
- IEEE MDM - Intl. Conference on Mobile Data Management, 2017.
- EDBT/ICDT - Intl. Conference on Extending Database Technology, 2017.
- VLDB - Very Large Data Bases Conference, 2016.
- EDBT/ICDT - Intl. Conference on Extending Database Technology, 2016.
- IEEE ICDE - Intl. Conference on Data Engineering, 2016.
- ACM SIGMOD - Intl. Management of Data Conference, 2015.
- IEEE MDM - Intl. Conference on Mobile Data Management, 2015.
- VLDB - Very Large Data Bases Conference, 2014
- ECML PKDD - European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases, 2014.
- EDBT/ICDT - Intl. Conference on Extending Database Technology, 2014.
- ACM DEBS - Intl. Conference on Distributed Event-Based Systems, 2014.
- IEEE TSC - Transactions on Services Computing, 2014.
- ACM SIGMOD - Intl. Management of Data Conference, 2014.
- IEEE ISSNIP - Ninth Intl. Conference on Intelligent Sensors, Sensor Networks and Information Processing, 2014.
- IEEE ICDE - Intl. Conference on Data Engineering, 2013.
- SSDBM - Intl. Conference on Scientific and Statistical Database Management, 2013.
- VLDB - Very Large Data Bases Conference, 2013.

XII. TEACHING WORK EXPERIENCE

TEACHING APPOINTMENTS

Special Scientist, Dept. of Computer Sc., University of Cyprus 2025-Present

- **EPL498 - Mobile Computing & Applications**, (Fall 2025)
  `https://costadb.com/courses/fall25/epl498/`

Special Scientist, Dept. of EECEI, Cyprus University of Technology 2025

- **CEI 467/526 - Advanced Topics in Data Processing Systems**, (Spring 2025)
  `https://elearning.cut.ac.cy/course/info.php?id=883`

Special Scientist, Dept. of Computer Sc., University of Cyprus 2024-2025

- **EPL498 - Mobile Computing & Applications**, (Fall 2024)
  `https://costadb.com/courses/fall24/epl498/`

- **EPL498 - Mobile Computing & Applications**, (Fall 2023)
  `https://costadb.com/courses/fall23/epl498/`

- **EPL035 - Data Structures and Algorithms for ECE**, (Fall 2023)
  `https://costadb.com/courses/fall23/epl035/`

Instructor/Assistant Professor, Dept. of Computer Sc., University of Pittsburgh 2019-2022

- **CS 1555/2055 - Database Management Systems**, (Spring 2022)
  `http://db.cs.pitt.edu/courses/cs1555/22-2/`

- **CS 3550 - Advanced Topics in Management of Data**, (Spring 2021)
  `https://db.cs.pitt.edu/courses/cs3550/21-2/`

- **CS 1555/2055 - Database Management Systems**, (Spring 2021)
  `http://db.cs.pitt.edu/courses/cs1555/21-2/`

- **CS 1645/2045 - Introduction to High Performance Computing**, (Spring 2021)
  `http://db.cs.pitt.edu/courses/cs1645/21-2/`

- **CS 1555/2055 - Database Management Systems**, (Fall 2020)
  `http://db.cs.pitt.edu/courses/cs1555/21-1/`

- **CS 1645/2045 - Introduction to High Performance Computing**, (Spring 2020)
  `http://db.cs.pitt.edu/courses/cs1645/21-1/`

- **CS 1555/2055 - Database Management Systems**, (Spring 2020)
  `http://db.cs.pitt.edu/courses/cs1555/20-2/`

- **CS 1645/2045 - Introduction to High Performance Computing**, (Spring 2020)
  `http://db.cs.pitt.edu/courses/cs1645/20-2/`

- **CS 1645/2045 - Introduction to High Performance Computing**, (Fall 2019)
  `http://db.cs.pitt.edu/courses/cs1645/20-1/`

- **CS/COE 0445 - Data Structures**, (Fall 2019)
  `http://db.cs.pitt.edu/courses/cs0445/20-1/`

- **CS 1555/2055 - Database Management Systems**, (Summer 2019)
  `http://db.cs.pitt.edu/courses/cs1555/19-3/`

- **CS 1555/2055 - Database Management Systems**, (Spring 2019)
  `http://db.cs.pitt.edu/courses/cs1555/19-2/`

- **CS0008 - Introduction to Computer Programming**, (Spring 2019)
  `http://db.cs.pitt.edu/courses/cs0008/19-2/`

Special Scientist, Dept. of Computer Sc., University of Cyprus 2018

- **EPL035 - Data Structures and Algorithms for ECE.**, (Fall 2018)
  https://costadb.com/courses/fall18/epl035/

Teaching Assistant, Dept. of Computer Sc., University of Cyprus 2011-2018

- **EPL660 - Information Retrieval and Search Engines**, taught by Prof. George Pallis
  http://www.cs.ucy.ac.cy/courses/EPL660/

- **EPL646 - Advanced Topics in Databases**, taught by Prof. Demetris Zeinalipour
  https://www.cs.ucy.ac.cy/~dzeina/courses/epl646/

- **EPL342 - Databases**, taught by Prof. Demetris Zeinalipour and Dr. Panayiotis G. Andreou
  https://www.cs.ucy.ac.cy/~dzeina/courses/epl342/

- **EPL451 - Data Mining on the Web**, taught by Prof. George Pallis
  http://www.cs.ucy.ac.cy/courses/EPL451/

- **EPL233 - Object-Oriented Programming**, taught by Prof. Georgia Kapitsaki, Dr. Panayiotis G. Andreou and Dr. Demetris Trihinas
  https://www.cs.ucy.ac.cy/~dzeina/courses/epl233/

- **EPL231 - Data Structures and Algorithms**, taught by Prof. George Pallis
  https://www.cs.ucy.ac.cy/~dzeina/courses/epl231/

- **EPL031 - Introduction to Programming**, taught by Prof. Fudos Ioannis
  http://moodle.cs.ucy.ac.cy/course/info.php?id=101

XIII. ADVISING

- **PhD. Defense Committee Member:**

  - Rakan A. Alseghayer, PhD Student advised by Panos K. Chrysanthis, "Optimizing Operators for Temporal and Spatiotemporal Data", Department of CS, University of Pittsburgh, Pittsburgh, PA, USA. Defense: August 2, 2023.

- **M.Sc. Committee Member::**

  - Arun Balajiee Lekshmi Narayanan, MS Student advised by Myself and Panos K. Chrysanthis, "Embedding Indices and Bloom Filters in Parquet files for Fast Apache Arrow Retrievals", Department of CS, University of Pittsburgh, Pittsburgh, PA, USA. Defense: July 30, 2020.

- **MS Thesis Supervised:**

  - Arun Balajiee Lekshmi Narayanan, MS Student, "Embedding indices and bloom filters in parquet files for fast Apache arrow retrievals", Department of CS, University of Pittsburgh, Pittsburgh, PA, USA, 2020. (Co-advised with Panos Chrysanthis)

  - Vasilis Ethan Sarris, BS/MS Student, "Comparing Forms of Indoor Congestion Modeling", Department of CS, University of Pittsburgh, Pittsburgh, PA, USA, 2022. (Co-advised with Panos Chrysanthis)

- Benjamin Graybill, BS/MS Student, "CovidReduce/CAPRIO", Department of CS, University of Pittsburgh, Pittsburgh, PA, USA, 2021. (Co-advised with Panos Chrysanthis)

- **BS Internships/Capstone Projects Supervised:**

  - Lucas Leiby, BSc, "Thinking Inclusively with CAPRIO", Department of CS, University of Pittsburgh, Pittsburgh, PA, USA, 2021. (Co-advised with Panos Chrysanthis)

  - Sayantani Bhattacharjee, Student Intern, "CovidReduce/CAPRIO", Department of CS, University of Pittsburgh, Pittsburgh, PA, USA, 2021. (Co-advised with Panos Chrysanthis)

  - Robert Kline, BSc, "CAPRIO v2: Accessibility Information", Department of CS, University of Pittsburgh, Pittsburgh, PA, USA, 2021. (Co-advised with Panos Chrysanthis)

  - Evan Kiebler and Evan McEllhenny, BSc Students, "Context-Aware Path Recommendation", Department of CS, University of Pittsburgh, Pittsburgh, PA, USA, 2019. (Co-advised with Panos Chrysanthis)

- **Other Advising:**

  - Marios Vladimirou, Panayiotis Eracleous, Philippos Papaphilippou, Philokypros Ioulianou, Winning in National ImagineCup contest (Rainbow Beams), Department of CS, University of Cyprus, Cyprus, 2014.

XIV. LANGUAGES

- Greek (native)
- English (fluent)

XV. PERSONAL INFORMATION

- Gender: Male
- Place of Birth: Limassol/Cyprus
- Nationality: Cypriot

XVI. REFERENCES

- **Demetris Zeinalipour**

  Professor — Phone: +357-22-892755
  Department of Computer Science — E-mail: dzeina@ucy.ac.cy
  University of Cyprus

- **Panos K. Chrysanthis**

  Professor — Phone: +1-412-624-8924
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  University of Pittsburgh

- **Mohamed F. Mokbel**

  Professor — Phone: (612) 626-3025
  Department of Computer Science and Engineering — E-mail: mokbel@umn.edu
  Qatar Computing Research Institute & University of Minnesota

- **Charalambos Poullis**

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