

IOANNIS MYTILINIS

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ABOUT ME

Database and systems engineer with a proven track record of designing large-scale distributed processing systems across elite academic and enterprise industry environments. Combines deep core data architecture expertise with a current focus on the intersection of systems and AI—specifically, optimizing infrastructure to efficiently support next-generation AI workloads and applications.

EDUCATION

Doctor of Philosophy (PhD) in Computer Science *Dec 2012 - Nov 2019*

National Technical University of Athens (NTUA), Heroon Polytechniou 9, 15780 Zografou, Greece

Title of Thesis: “Wavelet-based Algorithms for Approximate Processing in the Big Data Era”

Defence Date: 20/11/2019

Advisor: Prof. Nectarios Koziris

Diploma (MEng) in Electrical and Computer Engineering *Sept 2006 - Feb 2012*

National Technical University of Athens (NTUA), Heroon Polytechniou 9, 15780 Zografou, Greece

Title of Thesis: “Distributed Storage and Indexing of Social Network Information”

Advisor: Prof. Nectarios Koziris

PROFESSIONAL AND RESEARCH EXPERIENCE

- **Principal Member of Technical Staff at Oracle (Autonomous AI Lakehouse), Zurich** *Jan 2026 - present*
 - Optimizing access methods and processing for external tables
- **Principal Member of Technical Staff at Oracle (MySQL HeatWave), Zurich** *Jan 2022 - Dec 2025*
 - Tech lead in the data layer of the system
 - Designed and developed various features (e.g., partitioned tables support, workload-aware zonemap indexing, self-load, eventual consistency)
 - Root cause analysis of production issues
- **Postdoctoral Researcher at DIAS Lab, EPFL (Supervised by Prof. Anastasia Ailamaki)** *Jan 2020 - Dec 2021*
 - Tech lead and project manager in funded research projects:
 - * Storage Tiering in Data lakes (EU-funded)
 - * Near Data Processing (collaboration with Huawei)
 - * Batch Query Optimization (collaboration with Huawei)
 - Teaching of the Advanced Databases course of the Master’s program
 - Supervised multiple Master’s theses on data management
 - PC Member/Reviewer in various database conferences
- **Researcher at CsLab, NTUA** *Dec 2012 - Nov 2019*
 - Development in various Database and Cloud Computing EU-funded research projects (e.g., E2Data, ASAP)
 - Teaching assistant in Database and Systems courses
- **Research Intern, IBM, T.J. Watson Research Center, NY** *Summer 2016 & Summer 2017*
 - Natural Language Processing and Machine Learning on Audio Data

AWARDS

- Next-Generation Data Infrastructure Research Award by Facebook** 2021
Proposal on “Runtime-optimized Analytics with Compilation Hints”
Collaboration with Prof. Anastasia Ailamaki
- Best Paper Runner up Award** in the 31st International Conference on Scientific and Statistical Database Management (SSDBM) 2019
- NTUA Thomaidion Award** for outstanding publications in scientific journal or conference proceedings 2018
- NTUA Thomaidion Award** for outstanding publications in scientific journal or conference proceedings 2016

SELECTED PUBLICATIONS

- [C01] Zapridou, E., Koepf, M., Sioulas, P., Mytilinis, I., Ailamaki, A. **Process Faster, Pay Less: Functional Isolation for Stream Processing**. Proceedings of the IEEE **ICDE** International Conference on Data (2026).
- [C02] Sioulas, P., Mytilinis, I., Ailamaki, A. **SH2O: Efficient Data Access for Work-Sharing Databases**. Proceedings of the ACM **SIGMOD** International Conference on Management of Data 1.3 (2023).
- [C03] Zapridou, E., Mytilinis, I., Ailamaki, A. **Dalton: Learned Partitioning for Distributed Data Streams**. Proceedings of the **VLDB** Endowment 16.3 (2022).
- [C04] Michas, G., Chrysogelos, P., Mytilinis, I., Ailamaki, A. (2021, June). **Hardware-Conscious Sliding Window Aggregation on GPUs**. In Proceedings of the 17th International Workshop on Data Management on New Hardware (**DaMoN 2021**) (pp. 1-5).
- [C05] Sioulas, P., Sanca, V., Mytilinis, I., Ailamaki, A. (2021). **Accelerating complex analytics using speculation**. In **CIDR**.
- [C06] Mytilinis, I., Tsoumakos, D., Koziris, N. (2019, July). **Maintaining wavelet synopses for sliding-window aggregates**. In Proceedings of the 31st International Conference on Scientific and Statistical Database Management (**SSDBM**) (pp. 73-84). (**Best Paper Runner up**)
- [C07] Mytilinis, I., Tsoumakos, D., Koziris, N. (2018). **Scaling the construction of wavelet synopses for maximum error metrics**. IEEE Transactions on Knowledge and Data Engineering (**TKDE**), 31(9), 1794-1808.
- [C08] Mytilinis, I., Tsoumakos, D., Koziris, N. (2016, June). **Distributed wavelet thresholding for maximum error metrics**. In Proceedings of the 2016 ACM **SIGMOD** International Conference on Management of Data (pp. 663-677).
- [C09] Mytilinis, I., Giannakopoulos, I., Konstantinou, I., Doka, K., Tsitsigkos, D., Terrovitis, M., ... Koziris, N. (2015, May). **Modissense: A distributed spatio-temporal and textual processing platform for social networking services**. In Proceedings of the 2015 ACM **SIGMOD** International Conference on Management of Data (pp. 895-900).
- [C10] Doka, K., Mytilinis, I., Papailiou, N., Giannakouris, V., Tsoumakos, D., Koziris, N. (2015). **Multi-engine Analytics with IReS**. In Real-Time Business Intelligence and Analytics (pp. 133-154). Springer, Cham.
- [C11] Konstantinou, I., Tsoumakos, D., Mytilinis, I., Koziris, N. (2013, June). **DBalancer: distributed load balancing for NoSQL data-stores**. In Proceedings of the 2013 ACM **SIGMOD** International Conference on Management of Data (pp. 1037-1040).