Zafeiria (Iro) Moumoulidou

College of Information & Computer Sciences
University of Massachusetts
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Education

University of Massachusetts — Amherst, MA
Ph.D. in Computer Science, GPA: 3.97/4.00 — September 2018-Present
Advisor: Prof. Alexandra Meliou

Technical University of Crete — Chania, Greece
Diploma (5-year degree) in Electrical & Computer Engineering, GPA: 8.52/10.00 — August 2018
Thesis: "Dynamic Decision Trees in a Distributed Environment"
Advisors: Prof. Minos Garofalakis, Prof. Antonios Deligiannakis

Research Interests

- Algorithmic Fairness, Data Diversification, Data Management
- Machine Learning, Data Mining, Human Computer Interaction

Research & Academic Experience

University of Massachusetts — Amherst, MA
Research Assistant — Fall 2018-Present
Project Title: "Diverse Data Selection under Fairness Constraints"
Joint work with Prof. Andrew McGregor and Prof. Alexandra Meliou

• Developed novel algorithms with strong approximation guarantees for identifying a diverse set of elements that sufficiently represents various demographic groups.

Publications

[1] **Z. Moumoulidou**, A. McGregor, and A. Meliou. Diverse Data Selection under Fairness Constraints. *In 24th International Conference on Database Theory (ICDT 2021)*
Pre-print version: https://arxiv.org/pdf/2010.09141.pdf

Student Mentoring

University of Massachusetts — Amherst, MA
Tina Liu (undergraduate student) — Fall 2019

• Tina and I held paper discussions, and worked together on approximation algorithms for combinatorial optimization problems.

Awards & Distinctions

- **Outstanding Academic Performance Scholarship**, *Gerondelis Foundation*, (Grant $5,000) 2019

Graduate Coursework

- Advanced Machine Learning, *with Prof. Benjamin Marlin* (A) Fall 2020
- Randomized Algorithms, *with Prof. Andrew McGregor* (A) Spring 2020
- Optimization in Computer Science, *with Prof. Madalina Fiterau* (A) Spring 2020
- Neural Networks: A Modern Introduction, *with Prof. Erik Learned-Miller* (A) Fall 2019
- Research Methods in Empirical Computer Science, *with Prof. David Jensen* (A) Fall 2019
- Advanced Algorithms, *with Prof. Ramesh Sitaraman* (A-) Spring 2019
- Database Design & Implementation, *with Prof. Gerome Miklau* (A) Fall 2018
- Machine Learning, *with Prof. Brendan O'Connor* (A) Fall 2018

Notable Undergraduate Coursework

- Special Topics in Database Systems (10/10) **(graduate course)**
- Data Management and Processing in Sensor Networks (9/10)*
- Operating Systems (9/10)
- Human Computer Interaction (10/10)*
- Information Management Methods (9.5/10)*
- Convex Optimization (9/10)*
- Information Theory (10/10)
- Statistical Signal Processing (9/10)
- Digital Signal Processing (10/10)
- Probability Theory & Statistics (9.5/10)

* Cross-listed graduate course: attended as an undergraduate student but fulfilled graduate requirements.

Technical Skills

- Programming Languages: Python, Java, Matlab/GNU Octave, SQL
- Environments & Tools: PyTorch, MapReduce (Hadoop), Apache Storm

Languages

- **Greek:** Native
- **English:** Certificate of Proficiency in English C2, University of Cambridge, University of Michigan
- **Spanish:** Diploma Superior de Español Como Lengua Extranjera C2, Instituto Cervantes
- **German:** Goethe-Zertifikat B2, Goethe-Institut