Zafeiria (Iro) Moumoulidou

College of Information & Computer Sciences
University of Massachusetts
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https://imoumoulidou.github.io/

Research Interests

My research interests lie in the broad area of ethical, equitable, and responsible systems. I focus on issues of *diversity*, data and algorithmic *fairness*, while I am particularly fascinated by the areas of Fair & Explainable AI, Machine Learning, and Recommendation Systems.

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 & Academic Experience

University of Massachusetts — Amherst, MA
Research Assistant — Fall 2018-Present
Research on data diversification and algorithmic fairness using techniques from theoretical computer science.

Megagon Labs — Mountain View, CA
Research Scientist Intern — June 2021-August 2021
Research on understanding semantics in structured datasets.

University of Massachusetts — Amherst, MA
Teaching Assistant — Fall 2021
In *Research Methods in Empirical Computer Science* with Prof. David Jensen.

Publications

[1] **Z. Moumoulidou**, A. McGregor, and A. Meliou. Diverse Data Selection under Fairness Constraints. *In 24th International Conference on Database Theory (ICDT 2021)*

[2] R. Addanki, A. McGregor, A. Meliou, and **Z. Moumoulidou**. Diversity Maximization under Fairness Constraints in Streaming and Distributed Environments.* *(under submission)*

* Authors appear in alphabetical order.

Awards & Distinctions

- **Outstanding Academic Performance Scholarship**, *Gerondelis Foundation*, (Grant $5,000) 2019
- **Nominated by UMass CICS to apply for the Microsoft PhD Fellowship,** (1/3 nominations) 2020

Technical Skills

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

Professional Service & Outreach

- **External Reviewer:** VLDB 2021 (demonstration track), VLDB 2022, SIGMOD 2022
- **Volunteer:** PhD Applicant Support Program at CICS UMass Fall 2021

Graduate Coursework

- Advanced Topics in Natural Language Processing, *with Prof. Brendan O'Connor* (audit) Spring 2021
- 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)**
- Human Computer Interaction (10/10)
- Convex Optimization (9/10)
- Information Theory (10/10)
- Statistical Signal Processing (9/10)
- Probability Theory & Statistics (9.5/10)

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