

# Zafeiria (Iro) Moumoulidou

College of Information & Computer Sciences  
University of Massachusetts  
140 Governors Drive, Amherst, MA, 01003  
[zmoumoulidou@cs.umass.edu](mailto:zmoumoulidou@cs.umass.edu)  
<https://imoumoulidou.github.io/>

## Education

---

UNIVERSITY OF MASSACHUSETTS  
**Ph.D. in Computer Science**

Amherst, MA  
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  
**Research Assistant**

Amherst, MA  
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*.  
Pre-print version: <https://arxiv.org/pdf/2010.09141.pdf> (to appear in ICDT 2021)

## Student Mentoring

---

UNIVERSITY OF MASSACHUSETTS  
**Tina Liu (undergraduate student)**

Amherst, MA  
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* (ongoing) 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