PANAYIOTIS (PANOS) DANASSIS

– CURRICULUM VITAE –

PERSONAL INFORMATION

E-MAIL:	panayiotis.dn@gmail.com
DATE OF BIRTH:	October 23, 1991
CITIZENSHIP:	Greek (EU), Canadian
HOMEPAGE:	https://panosd.eu/
GOOGLE SCHOLAR:	https://scholar.google.gr/citations?user=Uo0aIHAAAAAJ

RESEARCH INTERESTS

My research interests lie in the area of **Artificial Intelligence (AI) for Social Good**, drawing on the fields of *multi-agent systems* (cooperation & coordination), *reinforcement learning*, and *game theory*. I have always been strongly motivated by the goal to provide practical solutions to societal challenges, having developed AI methods for mobility, sustainability of fisheries, and maternal health. My work aims to facilitate the integration of intelligent agents in society by building AI systems that work in the *real world*, and result in ***positive social impact!***

EDUCATION AND RESEARCH POSITIONS

NOV 2023 PRESENT

Research Scientist
Artificial Intelligence, Telenor Research, Norway

SEP 2022 AUG 2023

Postdoctoral Fellow
Teamcore, John A. Paulson School Of Engineering And Applied Sciences
Harvard University, USA,
Host: Professor Milind Tambe

JAN 2022 AUG 2022

Postdoctoral Researcher
Artificial Intelligence Laboratory, School of Computer and Communication Sciences
École Polytechnique Fédérale de Lausanne (EPFL), Switzerland
Host: Professor Boi Faltings

SEP 2016 JAN 2022

Ph.D. in Computer Science
Artificial Intelligence Laboratory, School of Computer and Communication Sciences
École Polytechnique Fédérale de Lausanne (EPFL), *Switzerland*
GPA: 6.0/6.0
Thesis: 'Scalable Multi-agent Coordination and Resource Sharing' (nominated for distinction)
Advisor: Professor Boi Faltings
Thesis Committee: Martin Jaggi, Frans Oliehoek, Pradeep Varakantham, Alcherio Martinoli

SEP 2015 JUL 2016

Research Associate
Microprocessors and Digital Systems Laboratory
National Technical University of Athens (NTUA), Greece

NOV 2014 JUN 2015

Undergraduate Research Member
Microprocessors and Digital Systems Laboratory
National Technical University of Athens (NTUA), Greece

2009 2015

Diploma of Engineering (B.Sc. and M.Eng.)
School of Electrical and Computer Engineering
National Technical University of Athens (NTUA), *Greece*
5-year Diploma (Master Equivalent)
Order of admission: 4th/450. Overall GPA 8.14/10.0, in-major GPA 9.0/10.0
Thesis: 'A Novel 3-D FPGA Placement Algorithm based on Ant Colony Optimization'
Advisor: Professor Dimitrios Soudris

Research

PAPERS UNDER REVIEW

1. 'LIA: Privacy-Preserving Data Quality Evaluation in Federated Learning Using a Lazy Influence Approximation',
   Lj. Rokvic, **P. Danassis**, S. P. Karimireddy, B. Faltings,
   Under review at the *Conference on Neural Information Processing Systems (NeurIPS 2024)*
   A preliminary version of this work received the **Best Paper Award** at the International Workshop on Trustworthy Federated Learning at IJCAI (FL-IJCAI) 2023

2. 'ALMA: An Altruism-Inspired Algorithm for Scalable, Privacy-preserving Multi-agent Coordination',
   P. Danassis, A. Filos-Ratsikas, A. Triastcyn, B. Faltings,
   Under review at the *Artificial Intelligence Journal (AIJ)*

3. 'Rectifying Market Externalities via AI Policymaking',
   P. Danassis, A. Filos-Ratsikas, H. Chen, M. Tambe, B. Faltings,
   Under review at the *Journal of Autonomous Agents and Multi-Agent Systems (JAAMAS)*

4. 'Leveraging AI to Improve Health Information Access in the World's Largest Maternal Mobile Health Program',
   A. Lalan, S. Verma, P. R. Diaz, **P. Danassis**, A. Mahale, K. M. Sudan, A. Hegde, M. Tambe, A. Taneja
   Under review at the *Ai Magazine*

JOURNAL PUBLICATIONS

1. 'Putting Ridesharing to the Test: Efficient and Scalable Solutions and the Power of Dynamic Vehicle Relocation',
   P. Danassis, M. Sakota, A. Filos-Ratsikas, B. Faltings,
   Artificial Intelligence Review, 2022

2. 'Exploiting Environmental Signals to Enable Policy Correlation in Large-scale Decentralized Systems',
   P. Danassis, Z. D. Erden, B. Faltings,
   Journal of Autonomous Agents and Multi-agent Systems, 2022

3. 'A Low-Complexity Control Mechanism Targeting Smart Thermostats',
   P. Danassis, K. Siozios, C. Korkas, D. Soudris, E. Kosmatopoulos,
   Energy and Buildings, Elsevier, 2017

4. 'ANT3D: Simultaneous Partitioning and Placement for 3-D FPGAs based on Ant Colony Optimization',
   P. Danassis, K. Siozios, D. Soudris,
   IEEE Embedded Systems Letters, 2016

CONFERENCE PUBLICATIONS

1. 'Improving Health Information Access in the World's Largest Maternal Mobile Health Program via Bandit Algorithms',
   A. Lalan, S. Verma, P. R. Diaz, **P. Danassis**, A. Mahale, K. M. Sudan, A. Hegde, M. Tambe, A. Taneja
   38th AAAI Conference on Artificial Intelligence (AAAI): IAAI Technical Track on Emerging Applications of AI, 2024

2. 'Limited Resource Allocation in a Non-Markovian World: The Case of Maternal and Child Healthcare',
   P. Danassis, S. Verma, J. Killian, A. Taneja, M. Tambe,
   32nd International Joint Conference on Artificial Intelligence (IJCAI), 2023

3. 'AI-driven Prices for Externalities and Sustainability in Production Markets',
   P. Danassis, A. Filos-Ratsikas, H. Chen, M. Tambe, B. Faltings,
   22nd International Conference on Autonomous Agents and MultiAgent Systems (AAMAS), 2023

4. 'A Distributed Differentially Private Algorithm for Resource Allocation in Unboundedly Large Settings',
P. Danassis, A. Triastcyn, B. Faltings,
21st International Conference on Autonomous Agents and MultiAgent Systems (AAMAS), 2022

5. 'Improving Multi-agent Coordination by Learning to Estimate Contention',
P. Danassis, F. Wiedemair, B. Faltings,
30th International Joint Conference on Artificial Intelligence (IJCAI), 2021

6. 'Improved Cooperation by Exploiting a Common Signal',
P. Danassis, Z. D. Erden, B. Faltings,
20th International Conference on Autonomous Agents and MultiAgent Systems (AAMAS), 2021

7. 'Efficient Allocations in Constant Time: Towards Scalable Solutions in the Era of Large Scale Intelligent Systems',
P. Danassis, B. Faltings,
24th European Conference on Artificial Intelligence (ECAI), 2-page Highlight Paper, 2020

8. 'Anytime Heuristic for Weighted Matching Through Altruism-Inspired Behavior',
P. Danassis, A. Filos-Ratsikas, B. Faltings,
28th International Joint Conference on Artificial Intelligence (IJCAI), 2019

9. 'Courtesy as a Means to Coordinate',
P. Danassis, B. Faltings,
18th International Conference on Autonomous Agents and MultiAgent Systems (AAMAS), 2019

BOOK CHAPTERS

1. 'Supporting Decision Making for Large-Scale IoTs: Trading Accuracy for Computational Complexity',
K. Siozios, **P. Danassis**, N. Zompakis, C. Korkas, E. Kosmatopoulos and D. Soudris,
Components and Services for IoT Platforms: Paving the Way for IoT Standards (invited book chapter), Springer, 2017

PEER-REVIEWED WORKSHOP AND SYMPOSIUM PUBLICATIONS

1. **(Best Paper Award)** 'Privacy-Preserving Data Quality Evaluation in Federated Learning Using Influence Approximation',
Lj. Rokvic, **P. Danassis**, B. Faltings,
International Workshop on Trustworthy Federated Learning at IJCAI (FL-IJCAI), 2023

2. 'AI-driven Prices for Externalities and Sustainability in Production Markets',
P. Danassis, A. Filos-Ratsikas, H. Chen, M. Tambe, B. Faltings,
4th International Workshop on Autonomous Agents for Social Good (AASG), 2023

3. 'Privacy-preserving Data Filtering in Federated Learning Using Influence Approximation',
Lj. Rokvic, **P. Danassis**, B. Faltings,
International Workshop on Federated Learning: Recent Advances and New Challenges at NeurIPS (FL-NeurIPS), 2022

4. 'Privacy-preserving Data Filtering in Federated Learning Using Influence Approximation',
Lj. Rokvic, **P. Danassis**, B. Faltings,
International Workshop on Trustworthy Federated Learning at IJCAI (FL-IJCAI), 2022

5. 'Differential Privacy Meets Maximum-weight Matching',
P. Danassis, A. Triastcyn, B. Faltings,
Adaptive Learning Agents (ALA) at AAMAS, 2021

6. 'Differential Privacy Meets Maximum-weight Matching',
P. Danassis, A. Triastcyn, B. Faltings,
Autonomous Agents for Social Good (AASG) at AAMAS, 2021

7. 'Improved Cooperation by Exploiting a Common Signal',
   P. Danassis, Z. D. Erden, B. Faltings,
   Autonomous Agents for Social Good (AASG) at AAMAS, 2021

8. 'Differential Privacy Meets Maximum-weight Matching',
   P. Danassis, A. Triastcyn, B. Faltings,
   Privacy-Preserving Artificial Intelligence (PPAI) at AAAI, 2021

9. 'Learning to Persist or Switch: Efficient and Fair Allocations in Large-scale Multi-agent Systems',
   P. Danassis, B. Faltings,
   Adaptive Learning Agents Workshop (ALA) at AAMAS, 2020

10. 'Anytime Heuristic for Weighted Matching Through Altruism-Inspired Behavior',
    P. Danassis, A. Filos-Ratsikas, B. Faltings,
    Adaptive Learning Agents Workshop (ALA) at AAMAS, 2019

11. 'Courtesy as a Means to Anti-coordinate',
    P. Danassis, B. Faltings,
    Adaptive Learning Agents Workshop (ALA) at AAMAS, 2018

12. 'Learning in Ad-hoc Anti-coordination Scenarios',
    P. Danassis, B. Faltings,
    AAAI Spring Symposium Series (SSS), 2018

13. 'Parallel Application Placement onto 3-D Reconfigurable Architectures',
    P. Danassis, K. Siozios, D. Soudris,
    International Conference on Modern Circuits and Systems Technologies (MOCAST), IEEE sponsored, 2016

PH.D. THESIS

1. 'Scalable Multi-agent Coordination and Resource Sharing',
   P. Danassis,
   École Polytechnique Fédérale de Lausanne (EPFL), 2022

Academic Engagement

INVITED TALKS

Does not include contributed conference and workshop talks.

1. 'REsource Allocation for societal CHallenges (REACH)',
   Department of Mathematics and Computer Science, Eindhoven University of Technology (TU/e),
   May 2023

2. 'AI-driven Prices for Externalities and Sustainability in Production Markets',
   Environment and Climate working group, Mechanism Design for Social Good (MD4SG),
   March 2023

3. 'Scalable Multi-agent Coordination and Resource Allocation',
   A smart and connected communities project, Vanderbilt University,
   September 2022

4. 'Improved Cooperation by Exploiting a Common Signal',
   MAGI, DeepMind,
   March 2022

5. 'Employing human-inspired conventions in large-scale multi-agent systems',
   Representation, Learning, and Reasoning (RLR) Lab,
   School of Information Systems, Singapore Management University (SMU),
   April 2019

Workshop Organisation

1. 5th International Workshop on Autonomous Agents for Social Good (AASG),
   Principal organiser. Co-organised with Aparna Taneja (Google Research), and Yunfan Zhao (Harvard University),
   In conjunction with AAMAS 2024, Auckland, New Zealand, May 2024

2. 4th International Workshop on Autonomous Agents for Social Good (AASG),
   Principal organiser. Co-organised with Aparna Taneja (Google Research), Bryan Wilder (Carnegie Mellon University), and Kayse Lee Maass (Northeastern University),
   In conjunction with AAMAS 2023, London, UK, May 2023

Program Committee Service

- AAAI Conference on Artificial Intelligence (AAAI) 2023
- European Conference on Artificial Intelligence (ECAI) 2023
- International Conf. on Autonomous Agents and Multiagent Systems (AAMAS) 2022 (subreviewer)
- The Web Conference (formerly known as WWW) 2021 (subreviewer)
- International Joint Conference on Artificial Intelligence (IJCAI) 2020, 2023 (subreviewer)
- The Workshop on Artificial Intelligence for Social Good (AI4SG at AAAI) 2023

Colloquium Organisation

Nov 2023 Present	**Journal Club at Telenor Research** Organizing a series of invited talks with speakers from academia and industry to share knowledge and foster collaborations. Past speakers from Harvard, UC Berkeley, EPFL, Google, Singapore Management University, University of Oxford, Georgia Tech, Ericsson, King's College London, University of Oslo, Norwegian School of Economics, Norwegian University of Life Sciences, Aalborg University.

Academic Visits

- Singapore Management University (SMU), Apr 1 - Apr 5, 2019
  Host: Associate Professor Akshat Kumar,

Teaching

Teaching Awards

1. ***Teaching Assistant Award***,
   Awarded to the best teaching assistant(s) of the year, based on student evaluations,
   École Polytechnique Fédérale de Lausanne (EPFL), School of Computer & Communication Sciences, 2019

Teaching Assistance

Responsibilities included developing new class material (including exam questions), leading exercise sessions, grading exercises and exams, and meeting with students. I have been a teaching assistant in the following courses:

1. **Intelligent Agents** (Fall 2017, 2018, 2019, 2020, 2021),
   Level: Post-graduate,
   École Polytechnique Fédérale de Lausanne (EPFL), School of Computer & Communication Sciences

2. **Intelligence Artificielle** (Spring 2017, 2018, 2020),
   Level: Undergraduate,
   École Polytechnique Fédérale de Lausanne (EPFL), School of Computer & Communication Sciences

3. **Microprocessors Laboratory** (Fall 2015),
   Level: Undergraduate,
   National Technical University of Athens (NTUA), School of Electrical and Computer Engineering

GUEST LECTURER

1. **Special Robotics and Control Subject** (Spring 2024),
   Level: Post-graduate,
   Topics taught: Introduction to Reinforcement Learning,
   Institution: OsloMet, Faculty of Technology, Art and Design, Department of Mechanical, Electrical and Chemical engineering

2. **Intelligent Agents** (Fall 2017, 2019),
   Level: Post-graduate,
   Cohort size: **50 - 60 students**,
   Topics taught: Learning Agents (co-developed the lecture), Game Theory,
   Institution: École Polytechnique Fédérale de Lausanne (EPFL), School of Computer & Communication Sciences

STUDENT SUPERVISION

- Harvard University, John A. Paulson School Of Engineering And Applied Sciences, 2022 - 2023
  - Ph.D. students (Mentor): 3 students
  - Bachelor Thesis (Main Supervisor): 1 student
- École Polytechnique Fédérale de Lausanne (EPFL), School of Computer and Communication Sciences, 2016 - 2021
  - Ph.D. students (Mentor): 1 student
  - Summer Internships (Main Supervisor): 3 students
  - Master Theses (Main Supervisor): 2 students
  - Master Semester Projects (Main Supervisor): 4 students
  - Bachelor Semester Projects (Main Supervisor): 3 students

Professional Service

LAB HIRING COMMITTEES

- Teamcore, Harvard University
  - PostDoc hiring
  - PhD hiring
- Artificial Intelligence Laboratory, École Polytechnique Fédérale de Lausanne (EPFL)
  - Summer interns hiring

GRANT PROPOSALS

1. *Office of Naval Research (ONR)*
   Title: Towards Distributed and Online Resource-allocation Partially Observable Stochastic Camouflage Games
   PI: Milind Tambe and Haifeng Xu
   Role: Contributor

Referees

- **Boi Faltings**
  Founder and director of the Artificial Intelligence Laboratory and Professor in the faculty of Information and Communication Sciences, École Polytechnique Fédérale de Lausanne (EPFL),
  E-mail: boi.faltings@epfl.ch

- **Aris Filos-Ratsikas**
  Assistant Professor at the School of Informatics, University of Edinburgh,
  E-mail: aris.filos-ratsikas@ed.ac.uk

- **Pradeep Varakantham**
  Lee Kuan Yew Fellow, Professor of Computer Science, School of Computing and Information Systems, Singapore Management University
  E-mail: pradeepv@smu.edu.sg

- **Milind Tambe**
  Gordon McKay Professor of Computer Science & Director of the Center for Research in Computation and Society (CRCS), Harvard University,
  Principal Scientist & Director, AI for Social Good, Google Deepmind,
  E-mail: milind_tambe@harvard.edu

- **Frans A. Oliehoek**
  Associate Professor, Interactive Intelligence group, TU Delft
  E-mail: f.a.oliehoek@tudelft.nl