

Stratis Tsirtsis

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RESEARCH INTERESTS

Causality — Incentives — Fairness — Optimization
in Machine Learning & Decision Making

- EDUCATION** **Ph.D. in Computer Science** 9/2019 - Now
Max Planck Institute for Software Systems (MPI-SWS) &
University of Kaiserslautern-Landau (RPTU), Kaiserslautern, Germany
Thesis: Strategic and Counterfactual Reasoning in AI-assisted Decision Making
Advisor: Manuel Gomez-Rodriguez
Spent spring quarter 2023 at Stanford University, hosted by Tobias Gerstenberg
- Diploma in Electrical & Computer Engineering** 9/2013 - 3/2019
National Technical University of Athens, Athens, Greece, *Grade: 8.5/10*
Thesis: Recommender Systems for Orienteering Problems
Advisor: Dimitris Fotakis
- PROFESSIONAL EXPERIENCE** **AI Research Scientist Intern** 8/2023 - 11/2023
Meta AI (FAIR), Paris, France
- Doctoral Researcher** 9/2019 - Now
Max Planck Institute for Software Systems, Kaiserslautern, Germany
- Research Engineering Intern** 9/2018 - 11/2018
National Centre for Scientific Research “Demokritos”, Athens, Greece

PUBLICATIONS Journals

(*): equal
contribution

(A): alphabetical
ordering

- Optimal Decision Making Under Strategic Behavior**
Management Science, February 2024
Stratis Tsirtsis*, Behzad Tabibian*, Moein Khajehnejad*, Adish Singla, Bernhard Schölkopf and Manuel Gomez-Rodriguez
- Quantifying the Effects of Contact Tracing, Testing, and Containment Measures in the Presence of Infection Hotspots**
ACM Transactions on Spatial Algorithms and Systems (TSAS), April 2022
Lars Lorch, Heiner Kremer, William Trouleau, **Stratis Tsirtsis**, Aron Szanto, Bernhard Schölkopf and Manuel Gomez-Rodriguez
- Pooled Testing of Traced Contacts Under Superspreading Dynamics**
PLOS Computational Biology, March 2022
Stratis Tsirtsis, Abir De, Lars Lorch and Manuel Gomez-Rodriguez

Conference Proceedings

Conference publications in computer science are archival and going through highly selective peer review.

1. **Towards a Computational Model of Responsibility Judgments in Sequential Human-AI Collaboration**
45th Annual Conference of the Cognitive Science Society (CogSci 2024)
Selected for oral presentation (top 19% of submissions)
Stratis Tsirtsis, Manuel Gomez-Rodriguez and Tobias Gerstenberg
2. **Finding Counterfactually Optimal Action Sequences in Continuous State Spaces**
37th Conference on Neural Information Processing Systems (NeurIPS 2023)
Stratis Tsirtsis and Manuel Gomez-Rodriguez
3. **On the Within-Group Fairness of Screening Classifiers**
40th International Conference on Machine Learning (ICML 2023)
Nastaran Okati, **Stratis Tsirtsis** and Manuel Gomez-Rodriguez
4. **Counterfactual Explanations in Sequential Decision Making Under Uncertainty**
35th Conference on Neural Information Processing Systems (NeurIPS 2021)
Stratis Tsirtsis, Abir De and Manuel Gomez-Rodriguez
5. **Bridging Machine Learning and Mechanism Design towards Algorithmic Fairness**
4th ACM Conference on Fairness, Accountability, and Transparency (FAccT 2021)
(A) Jessie Finocchiaro, Roland Maio, Faidra Monachou, Gourab K Patro, Manish Raghavan, Ana-Andreea Stoica and **Stratis Tsirtsis**
6. **Decisions, Counterfactual Explanations and Strategic Behavior**
34th Conference on Neural Information Processing Systems (NeurIPS 2020)
Stratis Tsirtsis and Manuel Gomez-Rodriguez

Workshops (non-archival)

1. **Towards a Computational Model of Responsibility Judgments in Sequential Human-AI Collaboration**
ACM Conference on Human Factors in Computing Systems (CHI 2024): Workshop on Theory of Mind in Human-AI Interaction
Stratis Tsirtsis, Manuel Gomez-Rodriguez and Tobias Gerstenberg
2. **On the Within-Group Fairness of Screening Classifiers**
2nd ACM SIGKDD Workshop on Ethical Artificial Intelligence: Methods and Applications (EAI-KDD 2023)
Nastaran Okati, **Stratis Tsirtsis** and Manuel Gomez-Rodriguez
3. **Finding Counterfactually Optimal Action Sequences in Continuous State Spaces**
40th International Conference on Machine Learning (ICML 2023): Workshop on Counterfactuals in Minds and Machines
Stratis Tsirtsis and Manuel Gomez-Rodriguez
4. **Counterfactual Explanations in Sequential Decision Making Under Uncertainty**
38th International Conference on Machine Learning (ICML 2021): Workshop

on Interpretable Machine Learning in Healthcare

Stratis Tsirtsis, Abir De and Manuel Gomez-Rodriguez

5. Decisions, Counterfactual Explanations and Strategic Behavior

4th Workshop on Mechanism Design for Social Good (MD4SG 2020)

Stratis Tsirtsis and Manuel Gomez-Rodriguez

6. Fairness and Discrimination in Mechanism Design and Machine Learning

AI for Social Good Workshop (AI4SG 2020)

(A) Jessie Finocchiaro, Roland Maio, Faidra Monachou, Gourab K Patro, Manish Raghavan, Ana-Andreea Stoica and **Stratis Tsirtsis**

TEACHING

Teaching Assistant

Winter Semesters 2022 & 2023

University of Kaiserslautern-Landau (RPTU), Kaiserslautern, Germany

Seminar: Human-Centric Machine Learning (Instructor: Manuel Gomez-Rodriguez)

Teaching Assistant

Summer Semester 2022

Saarland University, Saarbrücken, Germany

Course: Machine Learning (Instructor: Mario Fritz)

**SCIENTIFIC
COMMUNITY
ACTIVITIES**

Workshop organizing

ICML Workshop on Counterfactuals in Minds and Machines, Hawaii, USA **7/2023**

Co-organized with Nina Corvelo Benz, Ricardo Dominguez-Olmedo, Manuel Gomez-Rodriguez, Amir-Hossein Karimi, Thorsten Joachims, Isabel Valera and Sarah Wu

ICML Workshop on Algorithmic Recourse, Virtual **7/2021**

Co-organized with Manuel Gomez-Rodriguez, Amir-Hossein Karimi, Himabindu Lakkaraju, Ana Lucic and Isabel Valera

ELLIS Human-Centric Machine Learning Workshop, Virtual **5/2021**

Co-organized with Plamen Angelov, Umang Bhatt, Manuel Gomez-Rodriguez, Himabindu Lakkaraju, Nuria Oliver and Adrian Weller

Reviewing

ICML (2022-2024), ACM Computing Surveys, UAI 2023, NeurIPS (2021-2022), EAAMO 2022, FAccT 2022, AISTATS 2022, WSDM 2022, KDD 2021

**COMMUNITY
SERVICE**

MPI-SWS, PhD Student Representative

11/2021 - 2/2023

TEDxNTUA, Organizing Team

6/2017 - 3/2018

CanSat in Greece, Co-founder, Organizing Committee

11/2015 - 4/2017

LANGUAGES

English: Fluent

German: Basic

French: Basic

Greek: Native