Giacomo Medda

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Summary

As a third-year Ph.D. student at the University of Cagliari, Italy, he is dedicated to exploring beyond-accuracy concerns in the decision-making process of artificial intelligence systems. His research encompasses various topics, including fairness and bias analysis, mitigation and explainability in speaker recognition and recommender systems. He enjoys delving into intricate challenges to uncover unorthodox yet sophisticated solutions that stand apart from conventional perspectives. He thrives in a team environment where every member's ideas are valued and the group collectively supports each person's development.

Education

- Ph.D. in Computer Science at University of Cagliari — 2020 - present
- Master in Computer Science at University of Cagliari (Magna cum Laude) — 2018 - 2020
- Bachelor in Computer Science at University of Cagliari (Magna cum Laude) — 2015 - 2018

Research Experience

- **Ph.D. Student** — Oct 2020 - present
  University of Cagliari (Computer Science Department) — `Cagliari, Italy`
  I am a Ph.D. Student in Algorithmic Fairness towards End Users, with a focus on Speaker Recognition and Recommender Systems, advised by Dr. Mirko Marras, Dr. Ludovico Boratto and Prof. Gianni Fenu. The projects I have carried out during my studies have enabled me to: (i) mitigating sensitive group unfairness on publicly available voice data, (ii) devising evaluation perspectives for unfairness mitigation on movie recommendation and music streaming platforms, (iii) uncovering user interactions causing unfairness in recommendation on several domains. I also advised two Bachelor students.
- **Research Intern** — April 2022 - July 2022
  Eurecat (Data Science and Big Data Analytics unit) — `Barcelona, Spain`
  I joined the Data Science group as an intern, working with Francesco Fabbri and Mihnea Tufis. During my internship, I had the opportunity to work on: (i) analyzing explainability methods for graph data, (ii) understanding the causes behind unfairness in recommendation.
- **Research Grant** — Apr 2020 - Sept 2020
  University of Cagliari (Agile Group) — `Cagliari, Italy`
  I supported the Agile Group in the "Crpyto-voting project" by analysing the integration of innovative cybersecurity solutions, e.g. zero-knowledge proofs, in decentralized voting systems.
- **Research Grant** — Jan 2019 - Sept 2019
  University of Cagliari (Agile Group) — `Cagliari, Italy`
  I supported the Agile Group in the "CAFCha project" by building a database of labeled addresses of various cryptocurrencies that were web-scraped with the aim of deanonymizing common entities.

Publications

[1] Fenu, G., Marras, M., **Medda, G.**, Meloni, G., "Causal Reasoning for Algorithmic Fairness in Voice Controlled Cyber-Physical Systems". In: *Pattern Recognition Letters* (Under Review).

[2] Boratto, L., Fenu, G., Marras, M., **Medda, G.,** "Practical perspectives of consumer fairness in recommendation". In: *Information Processing & Management* (2023).

[3] Boratto, L., Fenu, G., Marras, M., **Medda, G.,** "Consumer Fairness in Recommender Systems: Contextualizing Definitions and Mitigations". In: *Advances in Information Retrieval - 44th European Conference on IR Research, (ECIR 2022).*

[4] Fenu, G., Marras, M., **Medda, G.**, Meloni, G., "Fair Voice Biometrics: Impact of Demographic Imbalance on Group Fairness in Speaker Recognition". In: *Proc. Interspeech 2021 (Interspeech 2021).*

[5] Fenu, G., **Medda, G.**, Marras, M., Meloni, G., "Improving Fairness in Speaker Recognition". In: *European Symposium on Software Engineering (ESSE 2020).* ACM.

Distinctions and Awards

- *Interspeech Travel Grant.* Travel support at Interspeech 2021, Brno, Czechia. Aug 2021
- *Best Presentation Award* at Symposium on Pattern Recognition and Applications Nov 2020

Teaching

- **Course: Introduction to Computer Science** Oct 2022 - present
  Teaching Assistant (University of Cagliari) `Cagliari, Italy`

Projects

- **External Consultant - Flosslab (E-MPARO)** Feb 2020 - Jul 2020
  Software Engineer supporting the "University of Cagliari E-MPARO project" by improving the e-learning platform lessons management during the COVID-19 pandemic.