Federico Mazzoni

AI and Data Analysis

Male 20 Feb 1995

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GitHub Project Portfolio

LANGUAGES

Italian
Mother tongue

English
FCE - C1

German
Fit - A2

PROGRAMMING & QUERY LANGUAGES

Python
Skillful

Java
Good Knowledge

R
Good Knowledge

JavaScript
Good Knowledge

Spark
Good Knowledge

SQL
Beginner

MDX
Beginner

PROFESSIONAL EXPERIENCE

Fellow at National PhD Program in Artificial Intelligence
University of Pisa
2022 – present | Pisa, Italy
I focused on hybrid human-machine decision-making.
- Understanding the behavior of a human decision-maker;
- Envisioning a personal assistant helping the human user with the decisions;
- Making the assistant an independent human surrogate.

Academic Tutor and Supervisor
University of Pisa
2021 – 2023 | Pisa, Italy
I held lectures, helped students, and examined them. I also supervised the Master's thesis *SafeGen: A Data-Anonymization Fairness-Enhancing Framework*.

Freelance Data Analyst
2022 | Pisa, Italy
As a freelance, I worked on a recommendation system.
- Content-based approach, extracting information from reviews with the VADER NLP algorithm;
- Collaborative filtering approach, employing the Python "Surprise!" library.

Trainee
University of Pisa
2022 | Pisa, Italy
Traineeship focused on pre-processing for outlier detection.

Creative Director and Writer
Emergency / Tunué
2019 – 2020 | Milan / Latina, Italy
I wrote the script and supervised the artists for the graphic novel project *I colori di una nuova vita* .

Writer
Cassiopea Production
2018 – 2019 | Rome, Italy
I wrote seven promotional shorts for the European Union.

EDUCATION

Summer School – Deep Learning
SDU – University of Southern Denmark
2023 | Odense, Denmark

Summer School – AI & Society
University of Pisa
2023 | La Maddalena, Italy
School focused on the ethical ramifications of AI. With other colleagues, I proposed the project "IUS - Intelligent University System", which won the project work contest.

DIGITAL SKILLS

Statistical analysis and data visualization

Dataset pre-processing
Imbalanced learning, PCA, fairness, outliers, and missing values

Classification, regression, and clustering
Also with incremental learning

Model evaluation and explanation

Key libraries:
Pandas, Sci-Kit Learn, TensorFlow, PyTorch, NetworkX, NLTK, DEAP, Matplotlib, Seaborn, RiverML

Fields:
Tabular data, time series, texts, networks

SOFT SKILLS

- Presentation
- Lateral Thinking
- Teamwork
- Stress Management
- Creativity
- Brainstorming
- Commitment

INTERESTS

- Writing
- Acting
- Movies
- Games
- Cooking

OTHER

Improvisational Theatre
2015 – 2017 | Pisa, Italy
I played improvisational theatre with *Arsenale Delle Apparizioni.*

This experience helped me understand how to speak in public and how to react to unexpected events.

Master's Degree in Digital Humanities | 110 cum laude
University of Pisa
2020 – 2022 | Pisa, Italy
Data Science and Language Technologies (NLP)

Relevant Exams: Data Mining, Social Network Analysis, Text Analytics, Distributed Data Analysis and Mining, Semantic Web, Laboratory of Data Science, Applied and Computational Linguistics

Master's Thesis: *Genetic Fairness-Enhancing Data Generation Framework*
- Proposing *GenFair*, an algorithm to remove discrimination towards demographic groups in training datasets, thus mitigating the bias of models trained on them;
- *GenFair* employs a genetic algorithm to create synthetic data, enhancing the original dataset;
- Good experimental results, overcoming several limitations of state-of-art competitors.

Specialization Course in Scriptwriting | 110 cum laude
Accademia Nazionale d'Arte Drammatica Silvio d'Amico
2017 – 2019 | Rome, Italy

Bachelor's Degree in Philosophy | 110 cum laude
University of Pisa
2014 – 2017 | Pisa, Italy

SCIENTIFIC PUBLICATIONS

F. Mazzoni, R. Guidotti, A. Malizia - A Frank System for Co-Evolutionary Hybrid Decision-Making
Symposium on Intelligent Data Analysis
2023 - Submitted

F. Mazzoni, M. Manerba, M. Cinquini, R. Guidotti - GenFair: A Genetic Fairness-Enhancing Data Generation Framework
International Conference on Discovery Science
2023 - Accepted

F. Mazzoni, A. Failla, S. Citraro - Quantifying and Reducing Marginalization in Networks: a Genetic Approach
International Conference for Computational Social Science
2022 - Accepted

A. Failla, F. Mazzoni, S. Citraro - Attribute-aware Community Events in Feature-rich Dynamic Networks
The 11th International Conference on Complex Networks and Their Applications - Book of Abstracts
2022 - Accepted

DECLARATION

I authorize the processing of personal data contained in my curriculum vitae based on art. 13 GDPR 679/16.

Federico Mazzoni