

# Sofia Martellozzo

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I am a passionate and ambitious Italian woman, with a specialization in informatics and artificial intelligence. With a deep-rooted curiosity and drive, I constantly seek to expand my knowledge in these cutting-edge fields. Eager to explore the ever-evolving landscape of informatics and AI, I embrace challenges and strive to push the boundaries of my understanding. I actively seek opportunities to collaborate with others, valuing diverse perspectives and leveraging collective knowledge.

## EDUCATION

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<b>Politecnico di Milano</b> <i>Master's Degree in Computer Science — Artificial Intelligence</i>	April 2024 110L
<b>Universidad Politecnica de Madrid</b> <i>Erasmus+ Program</i>	February-June 2023
<b>Politecnico di Milano</b> <i>Bachelor's Degree in Computer Engineering</i>	July 2021

## COURSEWORK

**Courses:** Machine Learning, Numerical Analysis for ML, Artificial Neural Network, Computer Vision, Data Mining, Foundations of Artificial Intelligence, Online Learning Applications, Software Engineering, Advanced Algorithm and Parallel Programming, Algorithmic Game Theory, Data Quality

## EXPERIENCE

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<b>ContentWise</b>   <i>Machine Learning Engineer</i>	April 2024 – June 2024
Architecting and implementing an automated infrastructure for a project focused on the detection of license plates and vehicle origins from images. The work is accomplished by leveraging ClearML as the primary tool, utilizing a custom server and services such as autoscaling and dashboard creation.	
<b>ContentWise</b>   <i>Machine Learning Research Intern — Master Thesis</i>	Sept. 2023 – April 2024
Engaged in developing a semantic search service with a custom embedding model, integrated with keyword search functionality to create a hybrid search system crafted specifically for the movies/series domain. Training and testing performed with a custom synthetic dataset generated for the specific use case.	

## PROJECTS

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<b>X-ray images classifier</b>
Development and comparison of different CNNs (s.a. DarkNet and CoroNet) for detecting tuberculosis and pneumonia from CRX images.
<b>Online Learning Application</b>
Application of Deep Learning techniques such as Multi Armed Bandit algorithms, to optimize pricing strategies. Developed algorithms to estimate conversion rates and determine optimal prices, comparing performances of UCB-1 and Thompson sampling algorithms.
<b>Movie Recommendation</b>
Developed a recommender system predicting user preferences on movies through two distinct approaches: Collaborative filtering and content-based filtering, Neural Network.
<b>Masters of Renaissance</b>
Developed a Java-based application for the real board game 'Master of Renaissance', incorporating both Command Line Interface (CLI) and Graphical User Interface (GUI) features. Implemented online multiplayer capabilities, enabling single-player and up to four-player games with concurrent management of multiple game instances.

## SKILLS

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**Languages:** Python, C/C++, Java, JavaScript, HTML/CSS, L<sup>A</sup>T<sub>E</sub>X, SQL, Terraform  
**Tools:** AWS, VS Code, GitHub, IntelliJ, CLion, Bitbucket, Google Colab, Anaconda, Kibana, Docker, ClearML  
**Libraries:** pandas, NumPy, Matplotlib, Keras, PyTorch, HuggingFace  
**Databases:** MySQL, Neo4j, MongoDB, Elasticsearch, Weaviate