

# Donato Meoli

COMPUTER SCIENTIST · MSc STUDENT IN ARTIFICIAL INTELLIGENCE

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## Summary

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Computer Scientist & Artificial Intelligence Student at University of Pisa.

Interested in devising better problem solving methods for challenging tasks, and learning new models and technologies if the need arises.

Interested in KRR and Combinatorial Optimization, focusing on finding a bridge between Differential Programming and Symbolic Reasoning from a ML pov.

## Experience

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### University of Pisa

RESEARCH FELLOWSHIP

Pisa, Italy

Dec. 2021 - Present

- Optimization models for *Sustainable ENergy communities AUTarchy (AUTENS)*.

### University of Pisa

ARTIFICIAL INTELLIGENCE STUDENT

Pisa, Italy

Mar. 2019 - Present

- In the context of **Artificial Intelligence Fundamentals** exam, in the fields of *Search*, *Constraint Satisfaction Problem (CSP)*, *Logic* and *Planning*, I developed several algorithms for solving problems formulated according to one of these models, such as *AC3b*, *AC4*, *GAC*, *CDCL*, etc.; paying particular attention to the definition, where possible, of translators able to convert a specific problem's definition according to another one of these models. Some examples are *SearchPlan*, *CSPlan*, *SATPlan*, etc.. All of these algorithms were submitted and merged in the official GitHub repository of Norvig's book, *Artificial Intelligence, A Modern Approach*.

### Exprivia S.p.A.

DATA SCIENTIST

Molfetta, Bari, Italy

Sept. 2018 - Feb. 2019

- In the context of **Industry 4.0** for the *Predictive Maintenance* scenario, I deployed as a Docker container an end-to-end Machine Learning platform for the *Multiple Multivariate Time Series Prediction* composed by Cesium ML algorithms for time-series inference (e.g., Random Forest, Linear Regression, etc.) and a custom Long Short Term Memory (LSTM) Recurrent Neural Network (RNN) model trained in Keras.
- In the context of **Smart City** for the *Smart Bins* scenario, I trained a Convolutional Neural Network (CNN) for the recognition of waste to be differentiated into paper, plastic, glass, or undifferentiated and I deployed it as a Docker container in Tensorflow Serving to made it available through RESTful API.
- In view of the participation at the **Mobile World Congress 2019** in Barcelona I deployed in TensorFlow Serving a pre-trained object detection model for the real-time recognition and counting of people present on all Exprivia S.p.A. stands.

## Writing

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### Support Vector Machines

UNDERGRADUATE STUDENT

University of Pisa

June 2021

- A comparative study about formulations of Support Vector Machines (SVM) from an optimization pov.

### Supermarket Analysis

UNDERGRADUATE STUDENT

University of Pisa

Jan. 2021

- A study of the purchasing behavior of the customers of a supermarket chain, using common Data Mining tools.

## Education

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### University of Bari "Aldo Moro"

BSc IN COMPUTER SCIENCE (ITALIAN COURSE) - FULL-TIME STUDENT

Bari, Italy

Oct. 2014 - Apr. 2018

Grade: 110/110 cum laude

### University of Pisa

MSc IN ARTIFICIAL INTELLIGENCE (ENGLISH COURSE) - PART-TIME STUDENT

Pisa, Italy

Jan. 2020 - Present

## Skills

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### Soft Skills

ACCURACY, ASSERTIVENESS, AUTONOMY, CREATIVITY, DECISIVENESS, HARDWORKING, LEADERSHIP, LEARN QUICKLY & CONTINUOUSLY, PROBLEM SOLVING, RESPONSIBILITY, SELF-CONFIDENCE, SELF-MOTIVATION

### Known Languages

ITALIAN (MOTHER LANGUAGE KNOWLEDGE), ENGLISH (PROFESSIONAL KNOWLEDGE)

### Computer Languages

C, C++, JAVA, PYTHON, SQL, MATLAB, PROLOG, CLIPS, L<sup>A</sup>T<sub>E</sub>X, JULIA

## Projects

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### OptiML

OPTIMIZERS FOR/AND SKLEARN COMPATIBLE MACHINE LEARNING MODELS.

*Python*

[github.com/dmeoli/optiML](https://github.com/dmeoli/optiML)

### Online Retail

DATA ANALYSIS OF AN ONLINE RETAIL.

*Python*

[github.com/dmeoli/OnlineRetail](https://github.com/dmeoli/OnlineRetail)

### P.E.S.A.D.

PROLOG EXPERT SYSTEM ON ANXIETY DISORDERS.

*Prolog*

[github.com/dmeoli/PESAD](https://github.com/dmeoli/PESAD)

### BeerEX

RULE-BASED EXPERT SYSTEM, AVAILABLE AS TELEGRAM BOT, WHICH SUGGESTS A BEER TO DRINK ACCORDING TO TASTE AND MEAL.

*CLIPS, Python*

[github.com/dmeoli/BeerEX](https://github.com/dmeoli/BeerEX)

### BSc Thesis

SOCIAL MEDIA ANALYSIS FOR THE DISCOVERY OF INTERACTION PATTERNS.

*Java*

[github.com/dmeoli/SocialMediaDiscovery](https://github.com/dmeoli/SocialMediaDiscovery)

### CranSearchEngine

SEARCH ENGINE FOR THE CRANFIELD COLLECTION.

*Java*

[github.com/dmeoli/CranSearchEngine](https://github.com/dmeoli/CranSearchEngine)

### WS4J

WORDNET SIMILARITY FOR JAVA PROVIDES AN API FOR SEVERAL SEMANTIC RELATEDNESS/SIMILARITY ALGORITHMS.

*Java*

[github.com/dmeoli/WS4J](https://github.com/dmeoli/WS4J)

### WNAffect

WORDNET AFFECT ALLOWS TO FIND THE EMOTION OF A GIVEN WORD.

*Java*

[github.com/dmeoli/WNAffect](https://github.com/dmeoli/WNAffect)

## Certifications

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Jun 2013 **ECDL**, European Computer Driving Licence

*AICA*

Jun 2014 **CCNA Discovery**, Networking for Home & Small Businesses

*Cisco*

May 2014 **BLSD**, Basic Life Support & Defibrillation

*IRC*

Oct 2018 **Weightlifting Trainer**, Federazione Italiana Pesistica

*FIPE*

## Organizations

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### AI\*IA

ITALIAN ASSOCIATION FOR ARTIFICIAL INTELLIGENCE

*Sept. 2018 - Present*

Member

