

# Donato Meoli

COMPUTER SCIENTIST · MSC STUDENT IN ARTIFICIAL INTELLIGENCE

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## Summary

Computer Scientist & Artificial Intelligence Student at University of Pisa. Interested in devising a better problem solving methods for challenging tasks, and learning new models and technologies if the need arises.

Interested in KRR and Combinatorial Optimization: in particular in finding a bridge between Differential Programming and Symbolic Reasoning.

## Experience

### 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 Python 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.

## Education

### University of Bari "Aldo Moro"

BSC IN COMPUTER SCIENCE (ITALIAN COURSE)

Bari, Italy

Oct. 2014 - Apr. 2018

Grade: 110/110 cum laude

### University of Pisa

MSC IN ARTIFICIAL INTELLIGENCE (ENGLISH COURSE)

Pisa, Italy

Mar. 2019 - Present

## Skills

### 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, CLIPS, LaTeX, 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)

### DS-SRS

RECOGNITION SYSTEM FOR ONLINE HANDWRITTEN SIGNATURE VERIFICATION BASED ON A DESCRIPTIVE STATISTICAL APPROACH.

Matlab

[github.com/dmeoli/DS-SRS](https://github.com/dmeoli/DS-SRS)

### CranSearchEngine

SEARCH ENGINE FOR THE CRANFIELD COLLECTION.

Java

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

### A\* Search

A\* HEURISTIC GRAPH SEARCH ALGORITHM.

C++

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

### 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 **BLSA**, 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

### FIPE

FEDERAZIONE ITALIANA PESISTICA

Nov. 2018 - Present

Trainer & Athlete