# 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.

## Experience

### University of Pisa

*Pisa, Italy*

Artificial Intelligence Student

*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 as one of these model, according to another model, allowing their resolution trough the typical algorithms of this field. Some examples are *SearchPlan*, *CSPlan*, *SATPlan*, etc.. All of these algorithms was submitted and merged in the Python GitHub repository of Norvig's book, *Artificial Intelligence, A Modern Approach*.
- In the context of **Machine Learning** and **Numerical Methods and Optimization** exam, I developed several machine learning and numerical optimization algorithms used by the latter and which was both submitted and merged in the Python GitHub repository of Norvig's book, *Artificial Intelligence, A Modern Approach*. All of these can be found also in my GitHub repository and represents a highly modular project as well as a reference point for students of the following years.

### Exprivia S.p.A.

*Molfetta, Bari, Italy*

Data Scientist

*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 Multiple Multivariate Time Series Prediction from extraction of simple statistical features (eg. means, standard deviations, maximum and minimum values, skewness, kurtosis, etc.) and typical domain type related features (eg. Fourier transform, etc.) to model-building to predictions. This platform has two main components: a web frontend written in JavaScript that allows interactive exploration of machine learning pipeline and a backend written in Python and composed by Cesium ML algorithms for time-series inference (eg. Random Forest, Linerar Regression, etc.) and a 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 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"

*Bari, Italy*

BSc in Computer Science (italian course)

*Oct. 2014 - Apr. 2018*

Grade: 110/110 cum laude

### University of Pisa

*Pisa, Italy*

MSc in Artificial Intelligence (english course)

*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)

### Sector Knowledge

Artificial Intelligence, Machine Learning, Deep Learning, Social Network Analysis, Knowledge Engineering, Expert Systems, Software Engineering, Relational & NoSQL (document and graph oriented) Databases, Object-Oriented Programming (OOP), Logic Pogramming

### Operating Systems

Linux Debian-based distros, Windows

### Computer Languages

C, C++, Java EE, Python, SQL, Matlab, CLIPS, LaTeX

## Projects

### BeerEX

*CLIPS, Python*

Rule-based expert system, available as Telegram bot, which suggests a beer to drink according to taste and meal.

*github.com/dmeoli/BeerEX*

### BSc Thesis

*Java*

Social Media Analysis for the Discovery of Interaction Patterns.

*github.com/dmeoli/SocialMediaDiscovery*

### DS-SRS

*Matlab*

Recognition System for online handwritten Signature verification based on a descriptive statistical approach.

*github.com/dmeoli/DS-SRS*

### CranSearchEngine

*Java*

Search Engine for the Cranfield collection.

*github.com/dmeoli/CranSearchEngine*

### A* Search

*C++*

A* heuristic Graph Search algorithm.

*github.com/dmeoli/AStarSearch*

### WS4J

*Java*

WordNet Similarity for Java provides an API for several Semantic Relatedness/Similarity algorithms.

*github.com/dmeoli/WS4J*

### WNAffect

*Java*

WordNet Affect allows to find the Emotion of a given word.

*github.com/dmeoli/WNAffect*

### OptiML

*Python*

Optimizers for/and *sklearn* compatible Machine Learning models, including Support Vector Machines and Deep Neural Networks.

*github.com/dmeoli/optiml*

## Certifications

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

### AI*IA

Italian Association for Artificial Intelligence

*Sept. 2018 - Present*

Member

**FIPE**

Federazione Italiana Pesistica *Nov. 2018 - Present*

Trainer & Athlete