



# ANDREA LOMBARDO

## ABOUT MY EDUCATION:

I received the Bachelor's degree on Engineering in Computer Science in 2019 at University of Tor Vergata. I received master degree in Engineering in computer science at the Sapienza University of Rome and I graduated at 20 October. I've written my master thesis on data analytics and AI in collaboration with Ruag Space, Thales Alenia Space and ESA.

## CONTACTS:

WEB SITE:

<https://lombardoandrea195.github.io/>

PROJECTS DONE:

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DAY OF BIRTH: 06/08/1995

HOBBY:

Basketball referee in FIP e CSI (from 2013)

SOFT SKILLS:

- Flexibility to adapt into several different environment
- Ability on hearing, interacting and sharing informations, ideas with the team
- Capability to work into a group
- Capability to analyze problems and solving solution according the system's capabilities
- Capability to build algorithms for the occurrence.

## INSTRUCTION:

**Liceo Scientifico Cavour**

2009 – 2014

**Bachelor's Degree on Engineering in Computer Science at Tor Vergata**

2014– 22/02/2019 Address: Software & Web system

**Master's Degree on Engineering in Computer Science at La Sapienza**

23/02/2019–20/10/2021 (110/110)

## JOB EXPERIENCES

Master thesis: 02/2021-5/11/2021

**(Ruag panel satellites in Smart Manufacturing: Analysis and Prediction)**

The task of the project is to improve the line production of Ruag company using Smart manufacturing approach. ESA tries to find out new experimental project for increasing the production of small satellites production for launching constellation as done by billionaires like E.Mask and J.Bezos. The architecture let to digitalize the system inserting a system able to control an huge amount of data through Flink and inspect it through data analytics methodologies. In particular Kibana is used for generating dashboards and with eland altair libraries installed with pip we are able to create single lucene json visualization. According to them we can make filtering of the single panels with comboboxes. At the same time we have create a Markov decision process able to predict the next step of the automatic machine paneling created by RUAG in order to guess if there is the need of human intervention or not in production line. The idea is to help analyzing what are the critical point but at the same time have the possibility to predict some issue errors and have the possibility to correct in line production some errors or some miss of resource. The idea starts because ESA would like to launch a constellation of satellites and RUAG has got the contract to product these panels.

## SKILLS:

Language skills:

- C and syscall Posix, Python, Jython, Java, JavaFx, (usage of the JDBC pattern and Servlet)
- knowledge microservices, SOA and WebService (REST e SOAP)
- knowledge of frameworks (Kibana, Flink)
- knowledge of different development approach: CMMI, SCRUM, AGILE and waterfall and iterative
- knowledge of NLP algorithms in (ex: SVM, KNN)
- knowledge of Machine Learning technique (classification, regression, unsupervised algorithm, Reinforcement learning, basic concept of Neural Network, markov chain, random walk)
- Usage of JMS, kafka and RabbitMQ as Remote Procedure Call
- web development: HTML, Javascript, CSS
- query language: SQL, NOSQL
- Assembler on architecture MIPS,
- Mobile Programming: Android
- UML, Design Pattern
- Router protocol: DHCP, NAT, RIP, OSPF
- Network Infrastructure: Access, telephone, Core network

Technical skills:

- Capability to follow all the lifecycle software (analysis and specification of requirements, design, implementation, testing..)
- Operating system: Linux, Windows
- knowledge of algorithm techniques and concept obtained by the two courses of G. P. Italiano at Tor Vergata during the first degree and the second one of S. Leonardi in Sapienza during the master in Sapienza
- Application Web: protocol TP/IP, UDP, server http (Apache, IIS)
- DBMS: (relational) postgres, MySQL (not relational) Firebase, MongoDB, Elasticsearch