



ANDREA LOMBARDO

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)

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 comboboxs. At the same time we have create a Markov decision process able to predict the next step of the automatic machine paneling created bu 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 costellation of satellites and RUAG has got the data product to these panels.

PUBLICATIONS & APPEARANCES

An industry 4.0 approach to large scale production of satellite constellations. The case study of composite sandwich panel manufacturing, Acta Astronautica, December 2021

Supporting Smart Manufacturing in the Space Industry: A case Study. Wiley, Engineering Reports, January 2025

JOB EXPERIENCES

11/2022-ongoing

ENEL GROUP (GDS [Global Data Hub]) - Data Engineer and Architect Solution

Building business solution for the several Enel company hub.
- Creating backend Python microservices using FastAPI sqlalchemy ORM technologies or ODM and Beanie using Repository and factory pattern (according the use cases)
- Creating libraries and modules used for Enel group
- Design ETL pipelines for several projects with Spark technologies
- Support team for design end-to-end solutions and development architectures. - Working with AWS apigateway writing with cdk_stack
- Manage Kubernetes clusters
- Manage database migration with alembic technology
- Built LLM-powered data access layer combining RAG, OpenAPI, and DSL for enterprise analytics use cases.

Technologies: Tools: Python,Docker, AWS suite, Kubernetes, Spark, Elasticsearch,Mongodb, Bitbucket, Bamboo, Atlassian Suite,OpenAPI

12/2021-11/2022

EY- Junior Information Technology Consultant(Staff 2 level)

Support the team in maintenance solutions and create new solution for meeting the client needs developed by EY.
- Creating solutions with Python microservices that monitor data using APIs Azure or APIs Prometheus for managing costs and billings creating responsive dashboards with PowerBI.
- Creating solutions with Power Platform of Azure, in particular with the creation of power apps for specific custom client needs.
- I cover the role of Data architect for building kappa and lambda architecture within GCP provider tools which help for an easier development in order to build the interaction between Data lake, Data Warehouse and for creating the AI model.
Meanwhile I support company needs with an high trends the implementation of different Metaverse experience using several platform like AltspaceVR, Roblox and Decentraland.

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)

ABOUT MY SELF:

I'm a 30 years old computer science Engineer with a strong passion on Data science such that I've written my master thesis on data analytics and AI in collaboration with several aerospaces companies with the goal of developing a new approach of smart manufacturing for increasing the line production.

I'm a creative learner always desiring to figure out things which I've never seen like new technologies and tools. I'm a determined, positive person focus on details with the ability to adapt into several different environment with ability to adapt into several different environment with ability to hear, interact and share information and ideas with the team. I'm able to analyze problems and build, according the most suited algorithms.

I'm passionate about creating truly beautiful efficient digital products like cyber physical system, datalake and data warehouse more in general digital infrastructure able to make people life-better with technology.

CONCTACTS:

WEB SITE:

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

PROJECTS DONE:

<https://github.com/LombardoAndrea195>

PHONE: +39 3381659398

EMAIL: l.andrea195@live.it

DAY OF BIRTH: 06/08/1995

HOBBY:

Travelling, cooking, doing sport(running, hyrox, gym)

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-
knowledge of Machine Learning technique (classification, regression, unsupervised algorithm, Reinforcement learning, basic concept of Neural Network, markov chain, random walk)

INTERNAL

- knowledge of different development approach: CMML, SCRUM, AGILE and waterfall and iterative
- knowledge of NLP algorithms in (ex: SVM, KNN)

- 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 Torvergata 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

CERTIFICATION:

2022:

- Microsoft Certified: Azure Fundamentals on may [link](#) (Microsoft)
- EY Cybersecurity - Information Security Awareness Essentials- Learning on march [link](#) (EY)
- Enterprise Design Thinking - Team Essentials for AI on apr [link](#) (IBM)
- Enterprise Design Thinking Practitioner on apr [link](#) (IBM)
- HackerRank Problem solving certificate on feb [link](#) (HackerRank)
- HackerRank's Python certificate on feb [link](#) (HackerRank)
- EY Analytics - Data Science - Learning on jan [link](#) (EY)
- EY Analytics - Data Visualization- Learning on jan [link](#) (EY)

2021:

- Microsoft Certified: Power Platform Developer Associate on dec [link](#) (Microsoft)
- Machine learning on Apr [link](#) (Coursera) authorized by Stanford
- Intro to Machine learning on Feb [link](#) (Kaggle)
- Pandas on Feb [link](#) (Kaggle)

2020:

- Data Science Orientation on apr [link](#) (Coursera) authorized by IBM
- Getting Started with AWS Machine Learning [link](#) (Coursera) authorized by AWS
- Databases and SQL for Data Science on may [link](#) (Coursera) authorized by IBM
- Data Science Methodology on june [link](#) (Coursera) authorized by IBM
- Managing Machine Learning project with Google Cloud on mar [link](#) (Coursera) authorized by Google Cloud
- Cloud Computing Basics (Cloud 101) on mar [link](#) (Coursera) authorized by LearnQuest

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Andrea Lombardo