Success Stories

**ADLIFE**

**Client**
H2020 EU

**Industry**
Public Sector / Health

**Country**
Spain

**TECHNOLOGIES LEVERAGED**
- Tensorflow & Keras
- Docker
- Pandas

**HISTORY OF TRANSFORMATION**
The European Union focused great part of its research and innovation activities in the Program called Horizon 2020 (H2020). It has contributed to addressing major societal challenges, promoting industrial leadership in Europe and strengthening the excellence of its science base.

Among the strategic objectives set by the H2020 program, the research aimed at solving specific problems of citizens is highlighted, such as healthcare and the aging of society.

**CLIENT CHALLENGE**
The way medical data is collected makes it a challenge for training and developing ML models. The information available is not data-driven, meaning that the project was dealing with data sparsity, which translates into inconsistent and extremely low-quality data. As a result, a considerable amount of data processing will be needed. Moreover, advances in the field of AI and Big Data are driven by the availability of a large amount of data, most of which contains sensitive information, protected by privacy regulations such as GDPR. This makes it impossible to share the data, preventing models from being trained. Making it essential to overcome this data access boundary in order to develop the project.

**SOLUTION OVERVIEW**
A microservice integrating six predictive models was defined. Each model is related to a different pathology, such as depression, anxiety, hypotension, malnutrition, readmission, and avoidable admission, and trained independently. The main objective was to extract data from different pilots (hospitals), CSV files, and use them to train and calculate the risk of the models.

More specifically, the use case led NTT DATA consists of training a model, simulating a network of three hospitals, that performs the classification of lung radiographs into different classes. The objective of the PoC is to analyze in a practical way the advantages and limitations of a use case in terms of scalability and performance.

**BUSINESS VALUE & KPIs**
- Successfully integrate therapies and approaches which target early detection and assessment of deterioration.
- Facilitate advanced and well-coordinated care planning and integrated supportive care to enhance the quality of life, reduce suffering and accelerate recovery for patients and their families.
- Provide a Personalized Care Plan Management Platform.
- Provide Clinical Decision Support Services with Interoperable Solutions.
- Build a Patient Empowerment Platform with Just-In-Time Adaptive Intervention Delivery Engine.
- A consistent and high-quality database that can be used efficiently in the construction and training of predictive models.
This project seeks to improve the overall quality of life of patients, because if doctors have all this information, they will have a better follow-up of the patient, as well as relieve overcrowding or unburden the congestion of the medical system.  

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