HackUPC - everis Talk

March 2017

attitude makes the difference

Agenda

1. everis' Cognitive Application Development Center (CADC)

2. One usecase: SmartICU

3. everisMoriarty – Overview

4. everisMoriarty @HackUPC

CADC Overview

- everis CADC stands for **Cognitive Applications Development Center**

- CADC started in 2016 with the **objective** of creating new types of services:
    1. **Analytics Applications Development**
    2. **Services around Artificial Intelligence (AI)**

- CADC number of resources: **22 data scientists** and **engineers**

Big Data Technologies	Data Science Tools	Deep Learning Algorithms Framewoks	3rd party Platforms
Spark hadoop HDFS	R jupyter python	GPU TensorFlow	IBM Watson

everis **MORIARTY**

Cognitive Applications Development Platform · powered by ITAINNOVA

Big Data and Data Analytics Use Cases

SMARTICU – INTENSIVE CARE UNIT SOLUTION

A user-friendly solution for managing **ICU patients data and enabling the medical staff to make informed data-driven decisions**

SOLUTION

- Solution for **capturing enormous** volumes of **data**
- generated in ICUs with integration to other hospital systems
- **User-friendly dashboards** that summarizes ICU patients data
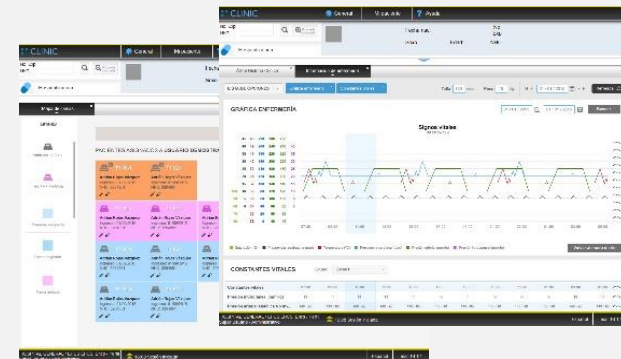- **Analytics scenarios** to enable the medical staff to make informed decision
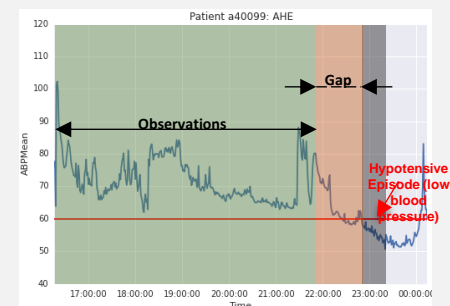
RESULTS

- **Eliminated manual** data **entry** of vital sign measurements
- **Increased** the **frequency** of vital sign measurements from 2 measurements per hour to **1 measurement per second**
- Enabled the **access** to all patient data in **one unified dashboard**
- Reduced the medical staff's time to action by using **predictive models** for certain critical conditions

ENTERPRISE ONLINE

Screenshots of SmartICU Dashboards

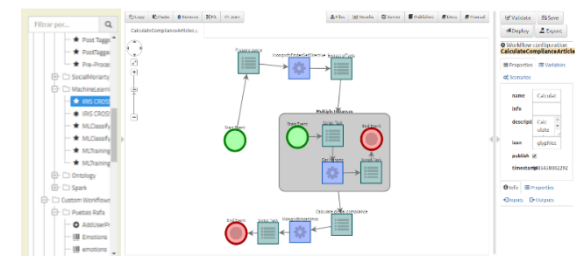**Example of predictive analytics scenario: Prediction of accute hypotensive episodes**
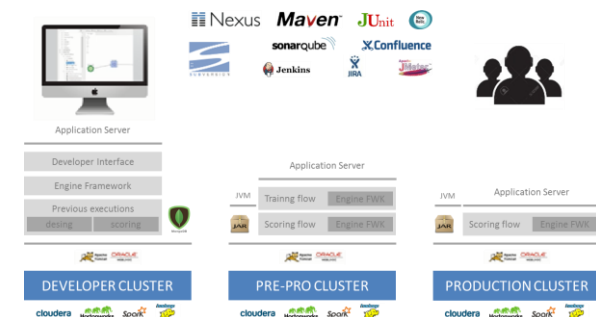
everisMoriarty
The Cognitive Framework

- **everisMoriarty (eM)** is a **powerful framework** for developing **end-to-end analytics/AI models**

- **eM** provides a **GUI** for building analytics **workflows**. It has a set of **workitems** covering: **Data Intake** (DB connectors, Twitter connector, Crawlers, file utilities), **Machine Learning Models** (Popular supervised and unsupervised ML models), **Text Mining algorithms**, and **Spark** Components.

- **eM** is integrated with **continuous delivery model** for **easy deployment of analytics workflows** to production

- **eM** is integrated with **third-party cognitive** providers via API (like IBM Watson).

- **Delivery** against all **infrastructure scenarios** (on-premises, Hybrid, Cloud…)

GENERAL ARQUITECTURE AND ALM

- For today´s HackUPC event, we built 2 services using eM:
    1. **Sentiment Analysis Service (English and Spanish)**
    2. **Language Detection (English and Spanish)**

- These services are accesible by API and you can integrate them with your applications.

Input: Text → **language** → **Output:** Arabic/Catalan/Deutsch/ English/Spanish/Basque/ Persian/Finnish/French/ Italian/Japanese/Urdu/ Portuguese/Russian/ Chinese/Chinese (T)

Input: Text + Language → **Sentiment** → **Output:** Positive/Negative

(English and Spanish text only)

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- **Please use the link below to download sample code (for Python, Javascript, Java and go) that shows how to get access to the 2 APIs.**

http://bit.ly/2IgFXMu

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