

ITACA-BDSL Lab technical background for **Margarita Salas** and **María Zambrano** actions

About us

Founded in 2000, ITACA-BDSL Lab is a multidisciplinary research group committed with the development and transference of technology based on data science and artificial intelligence to solve real health problems. Our expertise includes: machine learning, decision support systems, data quality & variability, medical imaging and predictive modelling.

Research lines

1. Medical Imaging

Artificial Intelligence is revolutionizing medical imaging, becoming an indisputable tool for modern medicine. We investigate innovative Deep Learning solutions to extract valuable knowledge from images to help addressing complex clinical problems. Our habitats-based imaging technology has demonstrated strong correlations with relevant clinical outcomes in patients with glioblastoma, unlocking new possibilities in early therapy planning support.

2. Decision support systems

Our research line in decision support is focused on the development of predictive models and Clinical Decision Support Systems (CDSS). From rule-based systems implementing international diabetes guidelines to deep learning for emergency medical call incidents classification and machine learning models to assess palliative care needs. Our goal is to provide decision support tools to physicians and health experts concerning several health issues.

3. Biomedical data quality

We investigate and apply novel methods to measure, describe and control data quality and variability for trustworthy use of biomedical data. Our 9-dimensional DQ framework and specialized methods for assessing temporal and multi-source variability complement database, machine learning and visual analytics approaches. Being robust to data quality and dataset shifts, we aim for reliable and explainable artificial intelligence for real world data.

BDSL Lab in numbers

15 IP rights

17 Private contracts

84 Publications

61 Funded I+D+i projects

 **6**

 **55**

2 Spin-Offs

 **VeraTech**
FOR HEALTH

 **TEXTURE** CDX



Contact

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<http://bdslab.upv.es/>

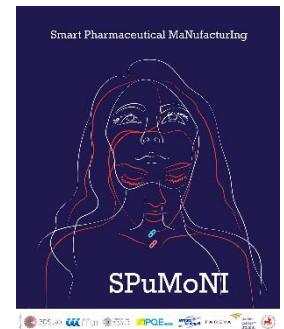
Research active projects

SPuMoNI

Smart Pharmaceutical Manufacturing

About: Systematic analysis of all data produced by computerized systems in pharma manufacturing environments. Design of a semi-autonomous data quality control decision support system to aid pharma companies to analyse compliance data.

Funding: 589 923,00 €.



ONCOhabitats

Vascular habitats in Glioma

About: Medical software based on AI techniques specifically for the analysis of glioma with magnetic resonance imaging. It includes pre-processing, segmentation and quantification of perfusion markers modules that allow the healthcare specialist to detect the lesion and characterize its vascularly.

Demo: <https://www.oncohabitats.upv.es/>

Funding: 312 000 €.



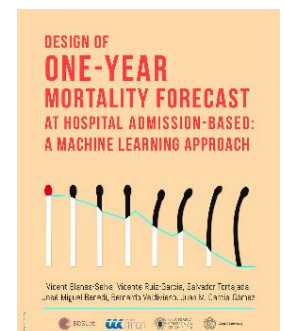
InAdvance

Palliative care

About: Mortality and frailty models for the identification of patients in need of palliative care.

Demo: <https://demoiapc.upv.es/>

Funding: 277 062,50 €.



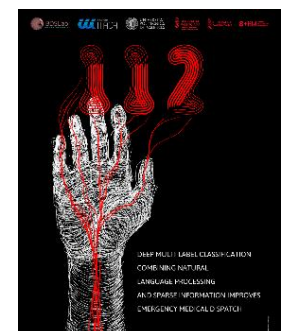
112

Classification of health demand

About: Development and validation of a new expert system based on advanced machine learning techniques that classifies the health demand by determining the severity.

Demo: <http://112inteligenciaartificial.upv.es/>

Funding: 302 177,45 €.



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