





PhD in Computer Science and Mathematics – XXXII cycle

# Models and tools for predictive analysis of Big Data through interactive visual techniques

Alessandra Legretto - Computer Science Department - University of Bari ALDO MORO - alessandra.legretto@uniba.it

**Abstract**: Predictive analysis is an important part of data analysis. Predictive models are increasingly used to estimate future values of the variables that describe a phenomenon. Different models produce different results on a same dataset; thus, several models should be compared, in order to identify the most suitable one. This PhD research contributes to the creation of a software system that enables the analyst to explore and compare a wider range of predictive models using several interactive visualizations.



Links *S.p.A.* is a company, whose headquarter is in Lecce (Italy), that provides consultancy in the IT (Information Technology) area and services, primarily for the banking, government and business markets

Within this PhD research, Links S.p.A. is providing knowledge, documents and data about the contexts addressed by the research and experimentation activities

#### International partner



## **NYU** TANDON SCHOOL OF ENGINEERING

The VIDA lab at New York University (NYU) is a laboratory very active in Information Visualization, Visual Analytics, and Exploratory Data Analysis

Within the PhD they have provided their expertise about the development of Visual Analytics tools to support the users in the interpretation of predictive models based on Machine Learning

### **Description of Activities**

The research investigates innovative models, techniques and tools of Predictive Visual Analytics to support the analyst exploring and comparing predictive models. In accordance with Keim's Visual Analytics Mantra different visualization techniques have been created.





The User-Centred Design (UCD) methodology has beeen



adopted and several prototypes are being developed and evaluated with users. The prototypes provide different visualization techniques built on purpose. Thanks to the UCD iterative approach we were able to provide effective representations.

#### Industrial partner supervisor Dr.ssa Palmalisa Marra <u>palmalisa.marra@linksmt.it</u>

Academic supervisor Prof. Paolo Buono <u>paolo.buono@uniba.it</u> International partner supervisor Prof. Enrico Bertini enrico.bertini@nyu.edu





