

# Riccardo Guidotti

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**About me.** I am a very determined and ambitious individual with a strong technical background and natural ability to lead. I am versatile, curious and able to think “out of the box”. I like to work in team, and I seek a career in research in the field of data mining and machine learning to improve existing applications or proposing new ones through the extraction of new knowledge from data. I am currently a post-doc researcher at ISTI-CNR, Pisa and a member of the KDDLab, a joint research group with the Department of Computer Science University of Pisa. I won the IBM fellowship and I have been an intern in IBM Research Dublin, Ireland in 2015. My research interests are in personal data mining, clustering, explainable models, and analysis of transactional data.

## Employment History

- 12/2018 – **PostDoc Researcher**, KDDL<sup>LAB</sup>, ISTI-CNR, Pisa, Italy.  
Today Researcher at ISTI-CNR, Pisa for the “*Track & Know*” H2020 European Research project.
- 03/2018 – **PostDoc Researcher**, KDDL<sup>LAB</sup>, UNIVERSITY OF PISA, Pisa, Italy.  
12/2018 Researcher at the Department of Computer Science of the “*Smart Retail*” research project co-founded by Regione Toscana and Bridge Consulting.
- 03/2018 – **Research Associate**, KDDL<sup>LAB</sup>, ISTI-CNR, Pisa, Italy.  
03/2020 Researcher in the program “*Knowledge Discovery and Delivery*”: *study of the behavior of decision making systems based on machine learning techniques*.
- 11/2016 – **Researcher**, KDDL<sup>LAB</sup>, ISTI-CNR, Pisa, Italy.  
02/2018 Researcher at ISTI-CNR for the program “*Knowledge Discovery and Delivery*”: *development of analytic methods for the extraction of individual and collective human behavior*.
- 05/2017 – **Developer**, UNIVERSITY OF PISA, Pisa, Italy.  
06/2017 Development of Python code for predefined algorithms and design of a technical report for a software for “*Information Retrieval*”.
- 11/2013 – **Ph.D. Student**, UNIVERSITY OF PISA, Pisa, Italy.  
04/2017 Ph.D student of the Ph.D school “*G. Galilei*” at the Department of Computer Science. Title of the thesis: “*Personal Data Analytics – Capturing Human Behavior to Improve Self-Awareness and Personal Services through Individual and Collective Knowledge*”. Supervisors: Prof. Dino Pedreschi and Dott.ssa Fosca Giannotti
- 11/2013 – **Research Associate**, KDDL<sup>LAB</sup>, ISTI-CNR, Pisa, Italy.  
31/2016 Researcher in the program “*Knowledge Discovery and Delivery*”: *development of analytic methods for the extraction of individual and collective human behavior*.
- 09/2014 – **Internship**, IBM RESEARCH, Dublin, Ireland.  
12/2014 Object of the internship: “*Analysis of individual mobility within the European FP7 PETRA project for proposing novel carpooling solutions as a valid alternative to traditional means of transportation*”. Supervisor: Dr. Michele Berlingerio.

- 09/2013 – **Developer**, SYNTHEMA SRL, Pisa, Italy.  
 10/2013 “Development of a OCR module for the automatic extraction of text from medical exam forms. Design of the profiling process of the users of a web platform using clustering and classification.”  
 03/2010 – **Internship**, KDDLAB, ISTI-CNR, Pisa, Italy.  
 09/2010 Object of the internship: “Research and development of an algorithm for calculating measures for searching the shortest path of multidimensional graphs and integration into a Java framework.”. Supervisor: Dr. Mirco Nanni.

## Education

- 2013-2017 **Ph.D. in Computer Science**, University of Pisa, Italy.  
 Ph.D. Thesis Title: “Personal Data Analytics: Capturing Human Behavior to Improve Self-Awareness and Personal Services through Individual and Collective Knowledge”, Supervisors: Prof. Dino Pedreschi and Dott.ssa Fosca Giannotti  
 2010-2013 **M.S. in Computer Science**, University of Pisa, Italy, Mark: 110/110 cum laude.  
 Thesis Title: “Mobility Ranking: Human Mobility Analysis using Ranking Measures”, Supervisors: Prof. Dino Pedreschi, Dott.ssa Fosca Giannotti and Dr. Salvatore Rinzivillo  
 2007-2010 **B.S. in Computer Science**, University of Pisa, Italy, Mark: 110/110 cum laude.  
 Thesis Title: “Shortest Path on Multigraph with Cost Modifiers - Sviluppo di misure su reti multidimensionali e integrazione delle stesse in framework Java”, Supervisors: Dr. Mirco Nanni, Dr. Michele Berlingiero and Dr. Michele Coscia  
 2002-2007 **Diploma of Accountant and Software Developer**, ITSC F. Zuccarelli, Pitigliano (GR), Italy, Final evaluation: 100/100.

## Research Activity

**Research Interests** Riccardo Guidotti’s PhD Thesis focuses on the study of algorithms and models for extracting systematic patterns that characterizes human behavior, as well as on the development of individual and collective services aimed at improving the performance of existing services and to provide to the user a better knowledge of herself. In his thesis, Riccardo Guidotti employed the methodologies developed on different data types like mobility data, shopping purchasing data, listening data, etc. Riccardo studied also data mining approaches for analyzing complex networks.

**Recent Activities** The current research activity of Riccardo Guidotti has three main directions. The first one is relative to the formalization of a “theory of explanation” and to the development of novel techniques for the interpretation of the so called “black-box” decision makers. The second research area is relative to the study of models and methods for the analysis of transactional purchasing data. A particular focus of this study concerns the shopping behavior and the dietary habits, also in terms of recipes, of the customers which are immigrants towards Italy. The third research direction involves the development and refinement of mobility data mining techniques for analyzing individual users and collective movements and with the aim of predicting future crashes among vehicles.

- Publications Topics**
- Explanation Theory and Methods for Interpreting Black Box Models [3, 6, 18–21, 54–56]
  - Personal Data Analytics [7, 9, 16, 27, 34, 38, 39, 45, 51]

- Clustering Algorithms for Personal Data Mining [28, 32, 37, 46]
- Services for Improving Individual and Collective Mobility [14, 35, 43]
- Data-Driven Carpooling Services [10, 12, 17, 40, 41, 44]
- Nowcasting Well-Being & Reconizing Residents and Tourists [29, 36]
- Intra and Inter Communities Link Prediction [11, 42, 50]
- Complex Network-based Mobility Analytics [13, 52]
- Complex Models for the Analysis of Musical Listening and Audio Tracks [8, 30, 33]
- Data Mining Analysis of Docker Images [23, 26]
- Didactic Tools for Data Mining [22]

**Bibliometric Indicators** According to *Google Scholar*, from 2014 to today, Riccardo Guidotti's publications received a total of 203 citations (*H-index* of 8). With respect to *Scopus*, from 2015 to today, Riccardo Guidotti's publications received 87 citations (*H-index* of 5).

## Participation to Research Projects

- 2019 – 2021 **Track&Know**, *European Union's Horizon 2020 research and innovation program project*, G.A. #780754, <https://trackandknowproject.eu/>.  
Track&Know is a European project, with the objective of researching, developing and exploiting a new software framework that aims at increasing the efficiency of Big Data. This framework will be applied in the transport, mobility, motor insurance and health sectors. The participation of Riccardo Guidotti to the project is tied to the development of personal and collective approaches for modeling users behavior and to exploit them for simulating and analyzing mobility traces.
- 2017 – 2019 **BEAM**, *Italian Tuscany Project*.  
BEAM (BigData Extensible Analytical Machine) is a research, design and development project for a prototypical system focused on an expandable, modular framework that allows the usage of systems based on parallel infrastructures for the processing and analysis of Big Data coming from heterogeneous sources like business information systems, IoT sensors, the WWW and social networks. The participation of Riccardo Guidotti to the project is tied to the development of methods of analysis and prediction of the purchases. Such methods will be integrated in the BEAM platform.

- 2015 – 2018 **SoBigData**, *H2020 Program project under the scheme “INFRAIA-1-2014-2015: Research Infrastructures”*, G.A. #654024, <http://www.sobigdata.eu>.  
SoBigData (Social Mining & Big Data Ecosystem) is a European project with the objective of building a Data Infrastructure with the aim of supporting the analysis of Big Data and the exchange of scientific competences. The participation of Riccardo Guidotti to the project is tied to the development of methods for the analysis of mobility data with the aim of providing to the users a better knowledge of themselves, and to offer personalized services of recommendation and prediction. During the project Riccardo Guidotti published the following works: [6, 7, 9, 11, 14, 19–21, 27–30, 32, 37, 39].
- 2015 – 2018 **CIMPLEX**, *H2020 Project under the funding scheme “FETPROACT-1-2014: Global Systems Science (GSS)”*, G.A. #641191, <https://www.cimplex-project.eu>.  
CIMPLEX (Bringing Citizens, Models and Data together in Participatory, Interactive Social EXploratories) is a European project with the objective of developing models and ICT tools for predicting the diffusion of flu and other epidemic phenomena in complex social systems. The participation of Riccardo Guidotti to the project is tied to the development of methods for personal data mining for the extraction of individual behavioral patterns. During the project Riccardo Guidotti published the following works: [11, 13, 36, 39, 42].
- 2015 – 2016 **LivLab**, *H2020 Project under the funding scheme “FETPROACT-1-2014: Global Systems Science (GSS)”*, G.A. #641191, <https://www.cimplex-project.eu>.  
The LivLab (Living Laboratory) project is a project among the KDD-LAB, Telecomitalia, Fondazione Bruno Kessler and Unicoop Tirreno that has the objective of designing an ecosystem for the development of experiments on user-centric and trusted platforms based on mobility and purchasing data. The participation of Riccardo Guidotti to the project is tied to the development of methods for personal data mining for the extraction of systematic individual behavioral patterns for mobility and purchasing data. During the project Riccardo Guidotti published the following work: [39].
- 2014 – 2017 **PETRA**, *SMARTCITIES Project under the funding scheme FP7-ICT – FET Open, Grant Agreement #609042*, <http://www.petraproject.eu/>.  
PETRA (PErsonal TRansport Advisor) is a European project with the objective of developing a platform of services for the analysis and the control of the users' mobility. The platform should link the data provider with the transport managers and the travelling users. The participation of Riccardo Guidotti to the project is tied to the development of a model for the prediction of the human mobility that exploits both the individual patterns and the collective ones. During the project Riccardo Guidotti published the following works: [10, 12, 13, 35, 37, 40, 41, 43, 44, 46].
- 2012 – 2014 **ICON**, *Project under the funding scheme FP7-ICT-2011-C – FET Open, Grant Agreement #284715*, <http://www.icon-fet.eu/>.  
ICON (Inductive COntstraint Programming) is a European project with the objective of developing an iterative approach that by integrating data mining and constraint programming techniques allows to analyze the data collected and dynamically adjust the constraints and optimization criteria. The participation of Riccardo Guidotti to the project is tied to the development of a loop for optimizing the recommendation for a carpooling service with respect to the number of circulating cars. During the project Riccardo Guidotti published the following works: [17, 45].

## Organization of Conferences and Workshops

- 2018 **PAP 2018**, *Program Co-Chair, 2nd International Workshop on Personal Analytics and Privacy*, <http://kdd.isti.cnr.it/pap2018/>.  
Main conference: ECML-PKDD 2018, Dublin, Ireland, 10-14 September.

2018 **DataMod 2018**, *Program Co-Chair, 7th International Symposium "From Data to Models and Back (DataMod)"*, <http://pages.di.unipi.it/datamod/edition-2018/>.

Main conference: STAFF 2018, Toulouse, France, 25-26 June.

2017 **PAP 2017**, *Program Co-Chair, 1st International Workshop on Personal Analytics and Privacy*, <http://kdd.isti.cnr.it/pap2017/>.

Main conference: ECML-PKDD 2017, Skopje, Macedonia, 18-22 September.

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## Editorial Board

2018 **PAP 2018 Springer LNCS post-proceedings**, *Editor in Chief, 2nd International Workshop on Personal Analytics and Privacy*.

2017 **PAP 2017 Springer LNCS post-proceedings**, *Editor in Chief, 1st International Workshop on Personal Analytics and Privacy*.

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## Program Committee

**SIAM-SDM** *SIAM International Conference on Data Mining*  
2019

**ECML-PKDD** *16th European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases*  
2018

**CENTRIC** *11th International Conference on Advances in Human-oriented and Personalized Mechanisms, Technologies, and Services*  
2018

**PAP 2018** *2nd International Workshop on Personal Analytics and Privacy*

**DataMod 2018** *7th International Workshop From Data to Models and Back*

**Goodtechs** *3rd EAI International Conference on Smart Objects and Technologies for Social Good*  
2017

**PAP 2017** *1st International Workshop on Personal Analytics and Privacy*

**DyNo** 2016 *2th Workshop on Dynamics in Networks*

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## Reviewer Activity

**DAMI** *Data Mining and Knowledge Discovery*

**TKDE** *Transactions on Knowledge and Data Engineering*

**TIST** *Transactions on Intelligent Systems and Technology*

**IPL** *Information Processing Letters*

**ITS** *Intelligent Transportation Systems*

**PlosONE** *Public Library of Science*

**FITEE** *Frontiers of Information Technology & Electronic Engineering*

**SIGKDD** *ACM International Conference on Knowledge Discovery in Databases*

**ICDM** *IEEE International Conference on Data Mining*

**CIKM** *Conference on Information and Knowledge Management*

**ECML-PKDD** *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases*

<b>SDM</b>	<i>SIAM International Conference on Data Mining</i>
<b>ASONAM</b>	<i>International Conference on Advances in Social Networks Analysis and Mining</i>
<b>DSAA</b>	<i>International Conference on Data Science and Advanced Analytics</i>
<b>ICDE</b>	<i>International Conference on Data Engineering</i>
<b>DyNo</b>	<i>Dynamics in Networks</i>
<b>PAP</b>	<i>International Workshop on Personal Analytics and Privacy</i>

## Talks and Presentations

- 27/01/2019 **AAAI**, *"Explainable Machine Learning"*, Honolulu, USA.
- 05/12/2018 **ISTI-YRA**, *"Clustering Individual Transactional Data for Masses of Users"*, Pisa, Italia.
- 03/10/2018 **DSAA**, *"Learning Data Mining"*, Torino, Italia.
- 12/09/2018 **ECML-PKDD**, *"Helping your Docker images to spread based on explainable models"*, Dublin, Irlanda.
- 26/06/2018 **DataMod**, *"Helping your Docker images to spread based on explainable models"*, Toulouse, France.
- 01/03/2018 **DataMod Informal Workshop**, *"On the Equivalence Between Community Discovery and Clustering"*, Pisa, Italy.
- 02/03/2018 **DataMod Informal Workshop**, *"There's A Path For Everyone: A Data-Driven Personal Model Reproducing Mobility Agendas"*, Pisa, Italy.
- 30/11/2017 **GOODTECHS**, *"Recognizing Residents and Tourists with Retail Data Using Shopping Profiles"*, Pisa, Italy.
- 29/11/2017 **GOODTECHS**, *"On the Equivalence Between Community Discovery and Clustering"*, Pisa, Italy.
- 06/10/2017 **Internet Festival**, *"I Big Data Nel Carrello Della Spesa"*, Pisa, Italy.
- 16/08/2017 **KDD**, *"Clustering Individual Transactional Data for Masses of Users"*, Halifax, Canada.
- 29/06/2017 **ISTI-YRA**, *"Unveiling Mobility Complexity and Nowcasting Well-Being through complex network analysis"*, Pisa, Italy.
- 21/04/2017 **PhD Defense**, *"Personal Data Analytics - Capturing Human Behavior to Improve Self-Awareness and Personal Services through Individual and Collective Knowledge"*, Pisa, Italy.
- 08/07/2016 **DataMod**, *"Audio Ergo Sum: A Personal Data Model For Musical Preferences"*, Vienna, Austria.
- 25/05/2016 **ISTI-YRA**, *"Carpooling: Challenges & Overview"*, Pisa, Italy.
- 23/03/2016 **CompleNet**, *"Where Is My Next Friend? Recommending Enjoyable Profiles in Location Based Services"*, Dijon, France.
- 06/11/2015 **SIGSPATIAL**, *"TOSCA: Two-Steps Clustering Algorithm for Personal Locations Detection"*, Seattle, USA.

- 03/11/2015 **MobiGis**, “Towards user-centric data management: individual mobility analytics for collective services”, Seattle, USA.
- 20/10/2015 **DSAA**, “Behavioral Entropy and Profitability in Retail”, Paris, France.
- 17/09/2015 **ITSC**, “Social or green? A data-driven approach for more enjoyable carpooling”, Gran Canaria, Spain.
- 30/04/2015 **ARS**, “Unveiling Mobility Complexity through Complex Network Analysis”, Capri, Italy.
- 15/12/2014 **IBM Final Report**, “Novel Solutions For Carpooling Modeling”, Dublin, Ireland.
- 02/09/2014 **MoKMaSD**, “Retrieving Points of Interest from Human Systematic Movements”, Grenoble, France.

## Research Softwares

- **Interpretable Models**, The python source code used to evaluate the stability of interpretable models [18], <https://goo.gl/61f9i2>.
- **LORE**, The python source code of LORE (LOcal Rule-based Explanations) and the datasets used in the experiments presented in the paper to provide local explanations for black box classifiers [3], <https://goo.gl/rwe6gM>.
- **Neighborhood Generation for Image Classifiers**, The python source code implementing the different approaches [19], <https://github.com/leqo-c/Tesi>.
- **Customer Temporal Regularities**, The python source code and the public available datasets used in the paper [9], <https://goo.gl/XofzJN>.
- **Didactic Data Mining**, The python library to teach and learn data mining algorithms presented in the paper [22], <https://goo.gl/9xBQzi>.
- **Mobility Agenda**, The python source code implementing an approach for reproducing the user’s personal mobility agenda that is able to predict the user’s positions for the whole day [31], <https://goo.gl/DVcojs>.
- **TBP Next Basket**, The python source code implementing the TARS based method for next basket prediction [7, 27], <https://goo.gl/PcYgMT>.
- **TX-Means**, The python source code implementing the parameter-free transactional clustering algorithm TX-Means [32], <https://goo.gl/CtBt1K>.
- **TOSCA**, The python source code implementing the parameter-free clustering algorithm for locations detection TOSCA [37], <http://goo.gl/umlHHk>.
- **BRE-STRE**, The python source code implementing the shopping basket and spatio-temporal revealed entropy indicators [39], <https://goo.gl/UCqrUq>.
- **Method of Reflection**, The python source code implementing the complex network analytics method of reflection [13], <https://goo.gl/CMJpuX>.
- **MyWay**, The python source code implementing the personal trajectory prediction method MyWay [14], <https://goo.gl/fU4a9z>.
- **Mobility Profile**, The python source code implementing a method for mobility profile extraction from GPS trajectories [12], <https://goo.gl/tmc2yC>.



- **Never Drive Alone**, *The python source code implementing the a method for carpooling recommendation [12]*, <https://goo.gl/TLKHku>.

## Research Seminars

- 03/08/2018 **Analyzing bipartite graph**, *Department of Computer Science*, University of Pisa, Italy.
- 25/07/2018 **Clustering techniques on bipartite graph**, *Department of Computer Science*, University of Pisa, Italy.
- 05/07/2018 **Crawling techniques and API for querying search engines**, *Department of Computer Science*, University of Pisa, Italy.

## Tutorial

- 27/01/2018 **XAI Tutorial - Explainable Machine Learning**, *AAAI 2019*, Honolulu, USA.  
The aim of the tutorial was to illustrate the state of the art problems and solutions in the field of explainable AI. We discussed the motivations for looking for interpretable classifiers, the critical aspects and we illustrated the functioning of existing approaches.
- Web Page <https://xaitutorial2019.github.io/>

## Teaching Activity

- 09/2018 – **Foundations of Data Mining**, *Teaching assistant*, University of Pisa, Italy.  
12/2018 Master degree in Computer Science. Course holders: Dino Pedreschi.
- 2018 – 2019 **Logic for Programming**, *Co-teacher*, University of Pisa, Italy.  
Bachelor degree in Computer Science. Course holders: Andrea Corradini.
- 03/2019 – **Data Mining and Machine Learning**, *Teaching assistant*, University of Pisa, Italy.  
04/2019 Master in “Big Data Analytics”. Course holders: Dino Pedreschi, Fosca Giannotti.
- 04/2018 – **Data Mining**, *Co-teacher*, Scuola Superiore Sant’Anna, Pisa, Italy.  
05/2018 Master MAINS: Management, Innovazione e Ingegneria dei servizi. Course holders: Dino Pedreschi, Fosca Giannotti.
- 23/04/2018 **Data Mining: A Python Introduction to Clustering and Classification**,  
24/04/2018 *Teacher*, European University Institute, Florence, Italy.  
Ph.D. Course. Course holders: Riccardo Guidotti.
- 03/2018 – **Data Mining and Machine Learning**, *Teaching assistant*, University of Pisa, Italy.  
04/2018 Master in “Big Data Analytics”. Course holders: Dino Pedreschi, Fosca Giannotti.
- 02/2018 – **ICT: BI**, *Co-teacher*, Scuola Superiore Sant’Anna, Pisa, Italy.  
03/2018 Master MAINS: Management, Innovazione e Ingegneria dei servizi. Course holders: Anna Monreale.
- 09/2017 – **Foundations of Data Mining**, *Teaching assistant*, University of Pisa, Italy.  
12/2017 Master degree in Computer Science. Course holders: Dino Pedreschi.
- 09/2017 – **Data Mining**, *Co-teacher*, Scuola Superiore Sant’Anna, Pisa, Italy.  
19/2017 Summer School of Mathematics for Economic and Social Sciences “Data Mining and Machine Learning for Business”. Course holders: Fosca Giannotti, Mirco Nanni.



- 04/2017 – **Data Mining**, *Co-teacher*, Scuola Superiore Sant'Anna, Pisa, Italy.
- 05/2017 Master MAINS: Management, Innovazione e Ingegneria dei servizi. Course holders: Dino Pedreschi, Fosca Giannotti.
- 01/2017 – **Data Mining and Machine Learning**, *Teaching assistant*, University of Pisa, Italy.
- 05/2017 Master in "Big Data Analytics". Course holders: Dino Pedreschi, Fosca Giannotti.
- 01/2017 – **Mobility Data Mining**, *Teaching assistant*, University of Pisa, Italy.
- 05/2017 Master in "Big Data Analytics". Course holders: Mirco Nanni.
- 02/2017 – **ICT: BI**, *Co-teacher*, Scuola Superiore Sant'Anna, Pisa, Italy.
- 03/2017 Master MAINS: Management, Innovazione e Ingegneria dei servizi. Course holders: Anna Monreale.
- 09/2016 – **Foundations of Data Mining**, *Teaching assistant*, University of Pisa, Italy.
- 12/2016 Master degree in Computer Science. Course holders: Dino Pedreschi.
- 04/2016 – **Mobility Data Mining**, *Teaching assistant*, University of Pisa, Italy.
- 07/2016 Master in "Big Data Analytics". Course holders: Mirco Nanni.
- 09/2015 – **Foundations of Data Mining**, *Teaching assistant*, University of Pisa, Italy.
- 12/2015 Master degree in Computer Science. Course holders: Dino Pedreschi.
- 09/2015 – **Data Mining**, *Teaching assistant*, Assicurazioni Generali, Italy.
- 11/2015 Master in Big Data. Course holders: Dino Pedreschi, Fosca Giannotti.

## B.S. and M.S. Thesis Supervision

- Ongoing **Amplifying movements data exploiting personal mobility agendas**, *Luca Silvestri*, Laurea Magistrale in Informatica, Università di Pisa, Italia.  
Correlatori: Mirco Nanni, Riccardo Guidotti.
- Ongoing **Are personal model also privacy preserving models? A deep study**, *Francesca Naretto*, Laurea Magistrale in Data Science and Business Informatics, Università di Pisa, Italia.  
Correlatori: Mirco Musolesi, Anna Monreale, Riccardo Guidotti.
- Ongoing **A benchmark of explanation methods for black box decision systems**, *Riccardo Affolter*, Laurea Magistrale in Data Science and Business Informatics, Università di Pisa, Italia.  
Correlatori: Fosca Giannotti, Riccardo Guidotti.
- Ongoing **Analyzing black box explainers in presence of hidden features**, *Leonardo di Sarli*, Laurea Magistrale in Data Science and Business Informatics, Università di Pisa, Italia.  
Correlatori: Fosca Giannotti, Riccardo Guidotti.
- Ongoing **Analyzing Migrants Food Consumption Behavior via Transactional Data**, *Roberto Zicaro*, Laurea Magistrale in Informatica, Università di Pisa, Italia.  
Correlatori: Mirco Nanni, Riccardo Guidotti.
- 10/2018 **Building Interpretable Classifiers via Local Explanations**, *Mattia Setzu*, M.S. in Computer Science, University of Pisa, Italy.  
Supervisors: Franco Turini, Anna Monreale, Riccardo Guidotti. Graduation mark: 110/110 cum laude.

- 10/2018 **A Study of the LIME Approach for Explaining Decisions of Image Classifiers**, *Leonardo Cariaggi*, M.S. in Computer Science, University of Pisa, Italy.  
Supervisors: Anna Monreale, Riccardo Guidotti. Graduation mark: 110/110 cum laude.
- 10/2017 **Didactic Data Mining: Un'applicazione web per E-learning e per la risoluzione di esercizi**, *Maurizio Ricci*, B.S. in Computer Humanities, University of Pisa, Italy.  
Supervisors: Anna Monreale, Riccardo Guidotti. Graduation mark: 105/110.
- 03/2017 **Personalytics: Un'applicazione web per esplorare i propri dati personali**, *Cono Stabile*, B.S. in Computer Humanities, University of Pisa, Italy.  
Supervisors: Anna Monreale, Riccardo Guidotti. Graduation mark: 107/110.
- 04/2015 **Analisi dei Pattern Individuali di Acquisto nella Grande Distribuzione**, *Gian Felice Meloni*, M.S. in Computer Science, University of Pisa, Italy.  
Supervisors: Dino Pedreschi, Diego Pennacchioli, Riccardo Guidotti. Graduation mark: 107/110.

## Honors and Awards

- 10/2018 **Next Generation Data Scientist Award 2018**, DSAA 2018, Torino, Italia.  
Award received for the research activity during the PhD period and for the research proposal.
- 05/2018 **ISTI Young Researcher Award 2018**, ISTI-CNR, Pisa, Italy.  
Award received for the research activity of the year 2017.
- 03/2018 **Research Grant**, UNIVERSITY OF PISA, Pisa, Italy.  
Research grant at the Department of Computer Science for the "Smart Retail" research project co-founded by Regione Toscana and Bridge Consulting.
- 03/2017 **ISTI Young Researcher Award 2017**, ISTI-CNR, Pisa, Italy.  
Award received for the research activity of the year 2016.
- 11/2016 **Research Grant**, ISTI-CNR, Pisa, Italy.  
Research grant at ISTI-CNR for the program "Knowledge Discovery and Delivery": development of analytic methods for the extraction of individual and collective human behavior.
- 03/2016 **ISTI Young Researcher Award 2016**, ISTI-CNR, Pisa, Italy.  
Award received for the research activity of the year 2015.
- 09/2014 **IBM Fellowship Award**, IBM RESEARCH, Dublin, Ireland.  
Award received for the Ph.D. thesis proposal and for academic merits in the academic year 2013/2014.
- 09/2013 **Ph.D. Scholarship**, UNIVERSITY OF PISA, Pisa, Italy.  
Scholarship for the participation to the Ph.D. school "G. Galilei" at the Department of Computer Science of the University of Pisa, founded by the MIUR for the period 2013/2016.

## Periods Abroad

- 09/2014 – **Internship**, IBM RESEARCH, Dublin, Ireland.
- 12/2014 Internship at IBM Research Dublin in the research team Smarter Urban Dynamics leaded by Dr. Francesco Calabrese in the research area of the FP7 European project PETRA. The research activity was based on the analysis of the individual mobility with the purpose of proposing novel carpooling solutions as valid alternatives to traditional means of transportation. During this period the following works have been produced: [10,35,40,41,44].

09/2011 – **Erasmus**, QUEEN MARY UNIVERSITY OF LONDON, London, United Kingdom.  
06/2012 During the Erasmus period Riccardo Guidotti attended the following courses: Artificial Intelligence, Bioinformatics, Machine Learning e Image Processing.

## Languages

Italian **Mother Tongue**  
English **Advanced**  
French **Basic**

*C1 level, CAE certificate  
Basic words and phrases only*

## Technical Skills and Competences

Languages Python, Java, R, C, C++  
Web HTML, Javascript, CSS, Web Services  
IDE PyCharm, TextMate, Eclipse, NetBeans  
Database PostgreSQL, Oracle, MySQL, MongoDB  
OS Mac OS X, GNU/Linux, Windows  
Platforms Knime, Weka, Jupyter

## Datasets and Databases Management

Since 2014 Riccardo Guidotti takes care of the management of the Oracle and Postegres databases containing the transactional data provided to KDDLab by UniCoop Tirreno. Moreover, Guidotti takes care of the storage and selection of the datasets used for the exams and projects of the data mining courses kept by the teachers member of KDDLab.

## Personal Interests, Volunteer Experience, Additional Information

**Personal Interest** - Music and Sports

**Volunteer Experience** - Animations for children (2000 - Today)

**Artistic Skills** - Good knowledge of animation techniques  
- Experience in theatre and acting ability  
- Ability to sing and play guitar

**Licenses and Patent** - Driving Licence (type B)

- Lifeguard Patent (type P)  
- European Computer Driving Licence – ECDL

## Publications

### Journal Article (under review)

- [1] G. Andrienko, N. Andrienko, C. Boldrini, C. Paolo, A. Facchini, F. Giannotti, A. Gionis, R. Guidotti, M. Mathioudakis, C. Muntean, D. Pedreschi, E. Pournaras, F. Pratesi, R. Trasarti *City of citizens: shaping urban landscape through big data*  
Submitted to EPJ Data Science.

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