Matteo Manca

RESEARCHER DATA SCIENTIST

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Summary

Matteo Manca is currently Researcher Data Scientist at Eurecat, in the Data Science and Big Data Analytics research group. He mainly focuses on the analysis of digital trace data and in the application of data mining and computation methods in order to study social phenomena. In 2014 he obtained his PhD in computer science from the University of Cagliari (IT), with a thesis focused on the study and implementation of recommendation approaches for the social media domain. He has worked as intern in CureMetrix (working remotely) , San Diego (CA) - USA and in the Web mining group at Yahoo! Researcher Barcelona.

Skills

Data Science	Data mining, Social Media Mining, Recommender Systems, Computational Social Science, Predictive modeling, Machine learning
Programming	Python (libraries scikit-learn, Pandas, Numpy, etc), R, SAS, SQL (mysql, Postgres, SQLite) bash scripting, Knowledge of Matlab, Knowledge of C, C++, Objective-C, Java, Javascript (JQuery), PHP, HTML and CSS LaTeX
Languages	Italian, English, Spanish

Education

University of Cagliari (Department of Mathematics and Computer Science) — *Cagliari, Italy*
PH.D. IN COMPUTER SCIENCE — *Feb. 2011 - May. 2014*
- Final dissertation: Mining User Behavior in Social Environments.

University of Cagliari (Department of Mathematics and Computer Science) — *Cagliari, Italy*
MASTER DEGREE IN COMPUTER SCIENCE (CUM LAUDE) — *2007 - 2009*
- Final dissertation: Metrics for characterization of web search results.

University of Cagliari (Department of Mathematics and Computer Science) — *Cagliari, Italy*
BACHELOR'S DEGREE IN COMPUTER SCIENCE (CUM LAUDE) — *2004 - 2007*
- Final dissertation: Induzione E Valutazione Di Modelli Di Classificazione Multi-Target Per La Diagnosi Di Patologie Tumorali ([EN] Induction and evaluation of multi-target classification models for the diagnosis of some cancer diseases)

Work Experience

Eurecat, Technology Center of Catalonia — *Barcelona, Spain*
RESEARCHER DATA SCIENTIST — *Feb. 2019 - Present*
- Research interests: Social Media mining, Human behavior, Computational Social Science, Social Recommender Systems.

Zurich Spain — *Barcelona, Spain*
DATA SCIENTIST — *Feb. 2018 - Feb. 2019*
- Data analysis to quantify risk and support business decision making.
- Implementation and validation of predictive and statistical models.

Eurecat, Technology Center of Catalonia — *Barcelona, Spain*
DATA SCIENTIST RESEARCHER — *Sep. 2015 - Jan. 2018*
- Research interests: Social Media mining, Human behavior, Computational Social Science, Social Recommender Systems.

Rare Diseases Center of Sardinia - Ospedale Pediatrico Microcitemico — *Cagliari, Italy*
COMPUTER SCIENCE CONSULTANT AND SOFTWARE ENGINEER — *Nov. 2010 - Sep. 2015*
- Design and development of clinical tools, web applications and iOS applications in the Rare Disease area.
- Management and maintenance of several client systems and linux servers (Xen virtualization, CentOS, Apache2, mysql, etc.

CureMetrix — *San Diego, USA*
INTERN DATA SCIENTIST (WORKING REMOTELY) — *Jun. 2014 - Nov. 2014*
- Development of a C++ multi-platform framework (based on DCMTK 3.6.1 library) for the extraction and processing of DICOM image data.
- Data scientist activities such as data preprocessing, preparation, re-formatting and Feature extraction of medical imaging data.

3C Lab Sardegna Ricerche — *Pula, Italy*
SOFTWARE DEVELOPER — *Aug. 2010 - Nov. 2012*
- Development of web applications; Program languages: php, javascript; web server: apache; framework codeigniter; library: jQuery.

IBM Italy Spa *Roma, Italy*

Intern Software developer *Apr. 2010 - Jul. 2010*

- Development of a software component for remote execution of management tasks in distributed environments (Program language: Java).

Consulmedia srl *Oristano, Italy*

Software developer *Sep. 2009 - Mar. 2010*

- Design and development of web applications, and client applications. Program language: Java; web server: Tomcat; OS: Linux.

Yahoo! Research Barcelona *Barcelona, Spain*

Intern Researcher *Jan. 2009 - Jun. 2009*

- Research activities in the Web mining group (Supervisors: Aristide Gionis and Debora Donato)
- Development of Master's Degree thesis.

Professional activities

2018	**Tutorial at International Conference**, L. Boratto, C. Herrero, A. Kaltenbrunner, M. Manca, G. Stilo. Data Sources and Techniques to Mine Human Mobility Patterns. The 5th IEEE International Conference on Data Science and Advanced Analytics (DSAA).	*Turin, Italy*
2018	**Program Committees Member**, ICWSM-18 - 12th International AAAI Conference on Web and Social Media	*Stanford, California*
2017	**Invited Speaker**, Addressing Big Societal Challenges with Digital Behavioral Data workshop (European Symposium Series on Societal Challenges in Computational Social Science).	*London, UK*
2017	**Program Committees Member**, MIDAS-2017 (The Second Workshop on MIning DAta for financial applicationS)	*Skopje, Macedonia*
2017	**Guest editor**, Special issue on Behavioral-Data Mining in Information Systems and the Big Data Era	*-*
2017	**Program Committees Member**, ICWSM-17	*Montreal, Canada*
2016	**Program Committees Member**, ICWSM-16	*Cologne, Germany*

Teaching

Tecnicas para el analisis de datos [SP] *Barcelona*

Curso de Nuevos metodos de visualizacion de la informacion Big Data *2017-11-02*

Exploratory Data Analysis using R *Barcelona*

Big Data Module, proyecto de formacion Digital and Green Skills por una economia sostenible *2017-03-08 - 2017-03-16*

Data Pre-processing and cleaning *Barcelona*

Big Data Module, proyecto de formacion Digital and Green Skills por una economia sostenible *2017-03-20 - 2017-03-30*

Exploratory Data Analysis using R *Barcelona*

Big Data Module, Master in Digital Solutions Development at Business Technology School *2017-02-15 - 2017-02-22*

Data pre-processing and cleaning *Barcelona*

Big Data Module, Master in Digital Solutions Development at Business Technology School *2017-03-15 - 2017-03-22*

Introduction to data pre-processing and cleaning using R *Barcelona*

Big Data Module, Master in Digital Solutions Development at Business Technology School *2016-02-22 - 2016-02-29*

Certifications & Courses

International

2017	**Summer School**, Summer School on Methods for Computational Social Science	*Sardinia, Italy*
2015	**Coursera MOOC**, Exploratory Data Analysis by Johns Hopkins University	*Sardinia, Italy*
2015	**Coursera MOOC**, Machine Learning	*Sardinia, Italy*

Publications

Journal

1. Boratto, L., Carta, S., Kaltenbrunner, A., **Manca, M.** (2018). Guest Editorial: Behavioral-Data Mining in Information Systems and the Big Data Era. DOI: https://doi.org/10.1007/s10796-018-9884-1

2. **Manca, M.**, Boratto, L., Morell Roman, V., Martori i Gallissà, O., & Kaltenbrunner, A. (2017).Using social media to characterize urban mobility patterns: State-of-the-art survey and case-study. Online Social Networks and Media, 1, 56–69. DOI: 10.1016/j.osnem.2017.04.002

3. Boratto, L., Carta, S., Fenu, G, **Manca, M.**, Mulas, F. & Pilloni, P. (2017). The role of social interaction on users motivation to exercise: A persuasive web framework to enhance the self-management of a healthy lifestyle. Pervasive and Mobile Computing, 36, 98–114. DOI: 10.1016/j.pmcj.2016.08.009

4. **Manca, M**., Boratto, L. & Carta, S. (2015).Behavioral data mining to produce novel and serendipitous friend recommendations in a social bookmarking system. Information Systems Frontiers, 1–-15. DOI: 10.1007/s10796-015-9600-3

5. Danjou, F., Francavilla, M., Anni, F., Satta, S., Demartis, FR., Perseu, L., **Manca , M.**, Sollaino, MC., Manunza, L., Mereu, E., Marceddu, G., Pissard, S., Joly, P., Thuret, I., Origa, R., Borg, J., Forni, GL., Piga, A., Lai, ME., Badens, C., Moi, P., Galanello, R. (2015).A genetic score for the prediction of beta-thalassemia severity. Haematologica, 452–457. DOI: 10.3324/haematol.2014.113886

6. Boratto, L., Carta, S., **Manca, M.**, Mulas, F., Pilloni, P., Pinna, G. Michele, & Vargiu, E. (2015). A Clustering Approach for Tag Recommendation in Social Environments. International Journal of E-Business Development, 126–136. DOI: http://www.academicpub.org/ijed/paperInfo.aspx?PaperID=13985

CONFERENCES

1. Marras, M., **Manca, M.**, Boratto, L., Fenu, G. & Laniado, D. (2018). BarcelonaNow: Empowering Citizens with Interactive Dashboards for Urban Data Exploration. In Proceedings of WWW 2018 (Demo Track)

2. Gonzalez Caicedo, E., **Manca, M**.& Laniado, D. (2017). Gender inequalities in political participation: a study of the 2017 UK general elections on Twitter. European Symposium Series on Societal Challenges in Computational Social Science.

3. **Manca, M.**, Aragon, P. & Calleja-Lopez, A. (2017). Urban Patterns and Citizen Participation: Geographical Data Analysis of Decidim Barcelona. European Symposium Series on Societal Challenges in Computational Social Science.

4. Freire, A., **Manca, M.**, Saez-Trumper, D, Laniado, D., Bordino, I., Gullo, F. & Kaltenbrunner, A. (2016). Graph-based breaking news detection on Wikipedia (Extended abstract). ICWSM 2016, Cologne, Germany.

5. **Manca, M**., Boratto, L., & Carta, S. (2014). Design and architecture of a friend recommender system in the social bookmarking domain. Science and Information Conference (SAI), 2014. London, UK: IEEE. DOI: 10.1109/SAI.2014.6918282.

6. **Manca, M.**, Boratto, L., & Carta, S. (2014). Mining User Behavior in a Social Bookmarking System: a Delicious Friend Recommender System. Data. DOI: 10.5220/0005000203310338.

7. Mulas, F., Pilloni, P., **Manca, M.**, Boratto, L., & Carta, S. (2013). Linking Human-Computer Interaction with the Social Web: A web application to improve motivation in the exercising activity of users. Cognitive Infocommunications (CogInfoCom), 2013. DOI: 10.1109/CogInfoCom.2013.6719270.

8. **Manca, M.**, Boratto, L., & Carta, S. (2013). Producing Friend Recommendations in a Social Bookmarking System by Mining Users Content. IMMM 2013: The Third International Conference on Advances in Information Mining and Management.

9. Mulas, F., Pilloni, P., **Manca, M.**, Boratto, L., & Carta, S. (2013). Using new communication technologies and social media interaction to improve the motivation of users to exercise. Future Generation Communication Technology (FGCT). DOI: 10.1109/FGCT.2013.6767189.

10. Mulas, F., Carta, S., Pilloni, P., Boratto, L. & **Manca, M**. (2011). Everywhere run: a virtual personal trainer for supporting people in their running activity. ACE '11 Proceedings of the 8th International Conference on Advances in Computer Entertainment Technology. DOI: 10.1145/2071423.2071510.

BOOK CHAPTERS

1. **Manca, M.**, Boratto, L., & Carta, S. (2015). Friend recommendation in a social bookmarking system: Design and architecture guidelines. Intelligent Systems in Science and Information 2014 (pp. 227–242).

Theses and dissertations

1. **Manca, M**. (2014). Mining User Behavior in Social Environments. PhD Dissertation. University of Cagliari, Italy. Retrieved from http://veprints.unica.it/1004/

2. **Manca, M**, Pintus, E. (2009). Metrics for characterization of web search results. M.Sc. Dissertation. University of Cagliari, Italy.

3. **Manca, M**, Frau, G. (2007). Induction and evaluation of multi-target classification models for the diagnosis of some cancer diseases. B.Sc. Dissertation. University of Cagliari, Italy.