

# Mara Sorella

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CURRENT POSITION **Sapienza University of Rome**, (Rome, Italy) **Apr, 2018** —  
Research Fellow at Research Center of Cyber Intelligence and Information Security

EDUCATION **Sapienza University of Rome**, Rome, Italy **Nov, 2013 - Feb, 2018**  
Ph.D. in Engineering in Computer Science

- Advisor: Aris Anagnostopoulos
- Thesis: “*Mining Dynamics of User Preferences in Complex Networks*”

**Sapienza University of Rome**, Rome, Italy **Oct, 2010 - Jul, 2013**  
MSc., Engineering in Computer Science

- Thesis: “*Understanding (Mis)information Spreading for Improving Corporate Network Trustworthiness*”
- Advisor: Roberto Baldoni
- Grade: full marks with honors

**Sapienza University of Rome**, Rome, Italy **Oct, 2005 - Sep, 2010**  
BSc., Engineering in Computer Science

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## REFERENCES

**Prof. Aris Anagnostopoulos**  
Department of Computer, Control, and  
Management Engineering Antonio Ruberti  
Sapienza University of Rome  
Via Ariosto 25, 00185 Rome, Italy  
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**Prof. Roberto Baldoni**  
Department of Computer, Control, and  
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RESEARCH STATEMENT My research focus is on modeling and mining dynamic processes on large-scale social and information networks: my investigation lies on the interface of computational methods and social theories, combining them to analyze effectively social media data, enabling to study human behavioral processes that have an impact on the structure, evolution and lifecycle of social networks. In particular, topics of primary interest are: information diffusion, influence analysis, link formation, event detection, network inference, user modeling, locality-sensitive-hashing. Other interests: spatio/temporal urban mining, advertising, recommender systems, dynamic graph visualization, and distributed computing. Furthermore, I have experience in design and implementation

of efficient algorithms for set similarity computation in data-streaming and distributed contexts. In particular, in the bioinformatics field, I worked on developing distributed alignment-free algorithms for large-scale genomic sequence comparison.

HONORS AND  
AWARDS

**Microsoft Azure Research Award** “*Online Event Detection and Evolution Tracking in Activity Networks*” (20K\$), May 2016.

**Telecom Big Data Challenge 2014 (Data Analytics track)** “*COLITA: Collaborative Interest-Driven Targeted Advertising*”, finalist project, April 2014.

GRANTS AND  
SCHOLARSHIPS

**ACM/SIGIR Student Grant** for the 11th International Conference on Web Search and Data Mining (WSDM 2018), February 2018

**AAAI Student Grant Award** for the 10th International Conference on Web and Social Media (ICWSM 2016), May 2016

**Student Volunteer Grant** for the 24th World Wide Web Conference (WWW 2015), May 2015.

**Three-years PhD Scholarship** from the Department of Computer, Control, and Management Engineering Antonio Ruberti at Sapienza University of Rome, November 2013.

**Scholarship (collaboration grant)** from the Department of Computer, Control, and Management Engineering Antonio Ruberti at Sapienza University of Rome. Tasks: network administration, maintenance and management of the internal node of the grid computing platform PlanetLab; configuration and deployment of wireless network devices of the “Sapienza Wireless” network of the department. 2010.

**Scholarship (collaboration grant)** from Sapienza University of Rome (Computer Science Laboratory “Paolo Ercoli”). Primary tasks: hardware/software support and UNIX system administrator. 2008-2009.

PUBLICATIONS

M. Bury, C. Schwiedelshohn, M. Sorella:

**Sketch’Em All: Fast Approximate Similarity Search in Dynamic Data Streams.**  
*Proc. of the 11th International Conference on Web Search and Data Mining (WSDM), 2018*

A. Anagnostopoulos, F. Petroni, M. Sorella:

**Targeted Interest-Driven Advertising in Cities Using Twitter.**  
*Proc. of the 10th International Conference on Web and Social Media (ICWSM), 2016*

A. Anagnostopoulos, M. Sorella:

**Learning a Macroscopic Model of Cultural Dynamics**  
*Proc. of the 17th IEEE International Conference on Data Mining (ICDM), 2015*

A. Anagnostopoulos, F. Petroni, M. Sorella:

**COLITA: Collaborative Interest-Driven Targeted Advertising.**  
*1st International Conference on Computational Social Science (ICCSS), 2015 (extended abstract)*

R. Baldoni, S. Bonomi, G.A. Di Luna, L. Montanari, and M. Sorella **Understanding (Mis)Information Spreading for Improving Corporate Network Trustworthiness**

*Proc. of the 14th European Workshop on Distributed Computing (EWDC), 2013 [Dependable Computing, LNCS Vol. 7869]*

SCIENTIFIC EVENTS **11th International Conference on Web and Social Media (WSDM 2018), Feb 2018**

*Marina Del Rey, Los Angeles (CA), Feb 6-9, 2018, as a presenter.*

**10th AAAI International Conference on Web and Social Media (ICWSM 2016)**

*Cologne, Germany. May 17-20, 2016 - as a presenter.*

**15th IEEE International Conference on Data Mining (ICDM 2015)**

*Atlantic City, NJ, US. November 14-17, 2015 - as a presenter.*

**ECML/PKDD Summer school on Data Sciences for Big Data - Resource Aware Data Mining**

*Porto, Portugal. September 7-11, 2015 - as an attendee.*

**1st International Conference on Computational Social Science (ICSS 2015)**

*Helsinki, Finland. June 8-11, 2015 - as a presenter.*

**24th World Wide Web Conference (WWW 2015)**

*Florence, Italy. May 18-22, 2015 - as a student volunteer and attendee.*

**J.T. Schwartz International School for Scientific Research on Modeling Spatio-Temporal Reasoning in Complex Social Systems**

*Lipari (ME), Italy. July 20-26, 2014 - as an attendee.*

**Telecom Big Data Challenge (ICT Days 2014)**

*Trento, Italy. April 2-4, 2014 - as a presenter.*

**16th International Conference on Principles Of Distributed Systems**

*OPODIS, Rome, Italy. December 17-20, 2012 - as an attendee.*

INVOLVEMENT IN RESEARCH PROJECTS **TENACE: Protecting National Critical Infrastructures from Cyber Threats.**  
*funded by the Italian Ministry of Education, University and Research under the PRIN program, 2013-2014.*

ACADEMIC SERVICE **PC Member** *Workshop on Social Influence (SI), 2017, Workshop on Social Influence (SI), 2016, Workshop on Social Influence (SI), 2018*  
**Reviewer** *Journal of Social Network Analysis and Mining (SNAM) 2015, SNAM 2016, SNAM 2017, SNAM 2018*  
**Sub-reviewer** *IEEE TPDS 2013, CIKM 2014, ECML-PKDD 2014, SDM 2015, ECML-PKDD 2016, ASONAM 2016, SIROCCO 2017, SAC Bioinformatics 2017*

TEACHING EXPERIENCE Adjunct Professor for the “Python Programming for Big Data” course, *Master in Data Intelligence and Strategic Decisions, School of Management and Decision sciences, Sapienza University of Rome, (Second semester, 2018)*

Teaching Assistant for the “Data Mining” course at the faculty of Engineering in Computer Science, Sapienza University of Rome (First semester, 2017)

Guest lecturer for the course “Design of Web-based Systems” at the faculty of “Languages in the information society” of the University of Rome “Tor Vergata” (Second

semester, 2011 and 2014)

Teaching assistant for the course “Foundations of Computer Science I” at the Faculty of Engineering in Computer Science, Sapienza University of Rome (First term, 2009).

WORK  
EXPERIENCE

**Dept. of Statistical Sciences (Sapienza University of Rome) *Research Fellow***  
**Jan, 2017 - Jan, 2018**

*Task: Implementation of large-scale distributed alignment-free biological sequence comparison algorithms*

**Adobe Systems - San Jose (CA) *Data Scientist Intern* – Aug – Dec, 2016**

SOFTWARE AND  
PROJECTS

My GitHub profile: <https://github.com/maruscia>

A list of projects can be found at <http://www.dis.uniroma1.it/~sorella>.

SKILLS AND  
ABILITIES

- Programming: Python, Java, Scala, C/C++, Javascript, Ruby, Objective-C, Net-Logo, Bash, R, SQL.
- Distributed Frameworks and Document Repositories: Apache Hadoop, Apache Spark, Storm, mongodb, Neo4J, redis, hbase.
- Other scientific tools: Gephi, MATLAB.
- Operating Systems: Unix/Linux, OS X, Windows.
- Languages: Italian (native), English (fluent), French (beginner), Spanish (beginner).

OTHER

I actively contribute since 2008 to the activities and the coordination of the italian Wireless Network Community Ninux.org.

Owning an Apple Developer Certificate issued by Apple for the years 2010-2013, I developed some mobile applications for the iOS platform available on the App Store.

I developed good communication and teamworking skills thanks to the experience of active contribution from 2006 to 2009 to the italian community of the Debian GNU/Linux operating system, and of the Ubuntu operating system, as a member of the groups package maintaining & testing and internationalization, documentation, and promotion.

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(ai fini della pubblicazione) *Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 “Codice in materia di protezione dei dati personali”.*