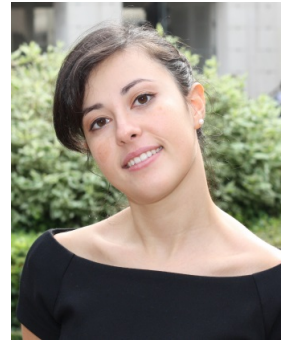




Anna Sapienza



Contacts

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Programming Languages

Python, C

Concepts

Social and complex networks, time-varying networks, data science, machine learning, data collection and analysis, tensor decomposition, SciPy/NumPy, Scikit-learn, Pandas, Scikit-tensor, IPython, Matlab&Simulink.

Education and training

January 2014 – current

PhD Student in **Applied Mathematics** at the Polytechnic of Turin, working in the “Data Science Laboratory” research group at I.S.I. Foundation.
Supervisor: **Ciro Cattuto**

Developed software tools and data pipelines (in Python) to process, analyze, and model the behavior of techno-social systems (mainly physical social interactions) collected by the SocioPatterns project –an active RFID social interaction sensing platform.

Contributed to research at the intersection between machine learning and network analysis, through the development of tools for matrix and tensor decomposition.

September 2011 – October
2013

Master degree in Mathematical modeling and engineering, Polytechnic of Turin.
Thesis: “**Localization and delocalization in chemotactic signaling**”, in collaboration with the biologist team of Molecular Biotechnology Center of Turin.
Final mark: 110/110 cum laude.

October 2012 – March
2013

Internship at “Candiolo Cancer Institute” (IRCC), Candiolo (TO), in the “System Biology” group, with the aim of developing **mathematical methods to the study of protein networks and pathways**.

September 2008 –
December 2011

Bachelor degree in Mathematics in engineering, Polytechnic of Turin.
Thesis: “**Evaluation of conduction velocity for endocavitary signal in atrial fibrillation**”, in collaboration with the cardiologist team of “Mauriziano Umberto I” hospital of Turin.
Final mark: 107/110.

September 2003 – July
2008

Scientific High School “N. Copernico”, Turin.
High school degree.

Schools and lectures

- February 2-4, 2015 Winter School: **“Search for Latent Variables: ICA, Tensors, and NMF”**
Villard de Lans, Grenoble, France
- September 19-21, 2014 ECCS Warm-up: **“II School on Complex Networks”**
IMT Lucca, Italy
- July 14-18, 2014 Summer School on: **“An interdisciplinary Approach to Tensor Decomposition”**
CIRM Trento, Italy
- April 7-18, 2014 Les Houches Thematic school on: **“Structure and Dynamics of Complex Networks”**, École de physique des Houches, France
- January - March 2014 Attended course: **“Data Mining, Statistical Modeling and Machine Learning”**,
University of Turin.
Theoretical part: machine learning algorithms, supervised/unsupervised methods, validation techniques.
Practical part: Ipython notebook classes, Kaggle competition.

Publications

- Sapienza, A., Panisson, A., Wu, J., Gauvin, L., & Cattuto, C. (2015). **Detecting anomalies in time-varying networks using tensor decomposition**.
Proceeding of IEEE ICDM'15: "International Workshop on Data Mining in Networks" (DaMNet).
- Sapienza, A., Panisson, A., Wu, J., Gauvin, L., & Cattuto, C. (2015). **Anomaly Detection in Temporal Graph Data: An Iterative Tensor Decomposition and Masking Approach**. Proceedings of AALTD 2015, 117.

Talks and posters

- November, 2015 Talk at the IEEE ICDM'15: "International Workshop on Data Mining in Networks" (DaMNet), Atlantic City, NJ, USA.
- September 11, 2015 Presented poster at ECML PKDD Workshop on "Advanced Analytics and Learning on Temporal Data", Porto, Portugal.
- March 9, 2015 Intervention for educational guidance at the scientific high school: "E. Majorana", Moncalieri, To, Italy.

Mother tongue

Italian

Other language(s)

Self-assessment

European level (*)

English

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C 1	Proficient user	C 1	Proficient user	B 1	Independent user	B 1	Independent user	B 2	Independent user

(*) Common European Framework of Reference for Languages

Certificates

Cambridge Preliminary English Test (PET) /2008
International English Language Testing System (IELTS) /2010