

Curriculum Vitae

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Personal Data

Current Affiliation

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Current Position

PhD Student at Politecnico di Bari. *Since November 1, 2018*

Brief Description of Scientific Activities

My research activities mainly focus on Artificial Intelligence. My investigation is devoted to novel approaches and application of Machine Learning algorithms, and in particular to Adversarial Machine Learning. In order to assess the effectiveness of the proposed methods they are implemented and tested in different application scenarios such as Information Retrieval, mostly Recommender System, Open Data and Computer Vision.

Education

Master's Degree in Computer Science Engineering. October 2018.

Bachelor's Degree in Computer Science and Automation Engineering. July 2016.

Research Interests

My research activity starts in 2018 soon after my graduation at Politecnico di Bari with the Information Systems Laboratory group (<http://sisinflab.poliba.it/>). Currently, I am a PhD Student under the supervision of Professor Tommaso Di Noia.

Research Topics

- **Adversarial Machine Learning** The great diffusion of different machine learning models has been followed by the identification of security issues on their robustness to possible attacks. Indeed, when ML models are used in real-world scenarios, the presence of intelligent adversaries can manipulate the specific vulnerabilities of learning algorithms thus compromising the robustness of the machine learning system. Adversarial Machine Learning is a recent field of research whose aim is to identify limits and security issues of ML models and develop countermeasures. The focal points of my research interests are the application of AML in Information Retrieval, particularly on Recommender System and Domain Transfer.
- **Information Retrieval and Recommender Systems** Another topic of my research that may surely benefit from the huge amount of data and information available in the so-called Web of Data is that of recommender systems. Linked Open Data may be used both to model a content-based recommender engine and to provide meaningful explanations to the end-user. I focus my research on investigating adversarial approaches and algorithms to identify possible security issues and propose relative solutions.
- **Open Data** I studied how to design and implement novel approaches to protect privacy by preserving high quality of data. Firstly, I evaluated how it is possible to use Open Data to support healthcare services by extracting insights from the integration of heterogeneous Open Data. Then, I focused my research on the preservation of data quality with particular attention to the semantics of data. Finally, I designed and developed a probabilistic reasoner able to guess specific information of an individual only by combining Open Data from various public sources.

Collaboration with national and international research institutes

Within my research activities, I have worked or currently work, with the following research institutes:

- Knowledge Media institute - The Open University (prof. Enrico Motta, dr. A. Antonini);
- Istituto di Ricerca sulle Acque - Consiglio Nazionale delle Ricerche (IRSA-CNR) Bari (dr. R. Matarrese);