

PERSONAL INFORMATION

Federica Rollo



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Date of birth 04/20/1993

Nationality Italian

WORK EXPERIENCE

A.A. 2019-2020

Subject Expert

University of Modena and Reggio Emilia, Italy
"Enzo Ferrari" Engineering Department – Semantic Web Course

January 2019 - now

Task Leader of Task 1.2 "Development of tools for the automatic/semi-automatic population of a unified input dataset" in Trafair European project

A.A. 2019-2020
A.A. 2018-2019

Subject Expert

University of Modena and Reggio Emilia, Italy
"Engineering Sciences and Methods" Department – Databases Course

November 2018 - now

Task Leader of Task 6.2 "Web Platform" in Trafair European project

November 2018 - now

Research Fellow at the University of Modena and Reggio Emilia
within the European project
"TRAFAIR - Understanding Traffic Flow to Improve Air Quality"
co-financed by the European Union through the CEF TELECOM program

April 2018 – September 2018

Expert System in Modena

Stage as software engineer
Topics: semantic intelligence, machine learning, cognitive computing

EDUCATION AND TRAINING

November 2018 - now

PhD student at the ICT "Information and Communication Technologies" school at the University of Modena and Reggio Emilia
title: **"Big Data Analytics in a Sustainable Smart City"**
tutor: Laura Po

September 2016 – October 2018

Master's Degree in Computer Engineering

University of Modena and Reggio Emilia, Italy
Final mark: 110/110
Thesis: **"Text mining through similarity: disambiguation, categorization and entity extraction"**
The goals of the thesis are the optimization of disambiguation of very large low-entropy documents and the automatic generation of rules for categorization and entity extraction.

- April 2016 **Bachelor's Degree in Computer Engineering**
 University of Modena and Reggio Emilia, Italy
 Final mark: 104/110
 Thesis: **"Topic detection in multi-channel Italian newspapers"**
 The thesis is about the study of the KeyGraph Algorithm in the context of news and the test on a real case scenario: the news of the 20 most popular Italian newspapers published on the main web site and the social media Facebook and Twitter.
- June 2012 **High School degree in Scientific field**
 Liceo Scientifico "S. Trinchese" Martano, Lecce (ITALY)
- 2011 **ECDL (European Computer Driving Licence) certification**

DEVELOPED SOFTWARE

- TRAFAIR Admin Dashboard** Web dashboard developed in Python using Tornado as web framework. It is a dashboard suitable to visualize the huge amount of data coming from air quality sensors. It is an administrative dashboard whose access is limited and controlled by login. The dashboard is linked to a Postgres Database which uses the extensions PostGIS and Timescale.

Role: Author
- Crime Application** Web dashboard developed in Python using Tornado as web framework. This dashboard shows the maps of the geolocated criminal events, making available some statistics of the occurrences of crimes in the province of Modena (Italy). The sources are two local newspapers, the application of Named Entity Resolution (NER) techniques and the normalization of the temporal expressions allow geolocating the criminal events described in the news articles.

Role: Author

PERSONAL SKILLS

Mother tongue Italian

Other languages

English Good knowledge of written and spoken language

French Good knowledge of written and spoken language

Organisational / managerial skills

- Excellent skills in team working and in independent working gained through different academic experiences, such as the internship
- Excellent skills in work organization and great accuracy and precision.

Digital skills PROGRAMMING AND MARK-UP LANGUAGES:

- Python
- Java
- SQL
- PHP
- HTML
- C
- C++

TOOLS:

- Anaconda (in particular Jupyter)
- Eclipse
- Visual Studio
- PyCharm
- Microsoft office™ tools
- MySql
- Solid Works
- Gephi

ADDITIONAL INFORMATION

 Research activities,
Projects
And Conferences

- Member of the technical committee for the “**Semantics and Knowledge Management**” Track of the **17th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2020)**
- 14th – 18th October 2019: I attended the **5th IEEE International Smart Cities Conference (ISC2 2019)** in Casablanca (Morocco) to present the paper “From Sensors Data to Urban Traffic Flow Analysis” and participate to several talks concerning the recent researches on smart cities.
- 14th – 16th May 2019: participation in the event “**Forum PA 2019**” in Rome. In particular, I was very interested in the following meetings: “Strategies and tools for mobility in the city of the future”, “Promote sustainable innovation, orient the market: a new role of government”, “Smart, sustainable and responsive cities”. During this event, the European project “TRAF AIR: Understanding Traffic Flows to Improve Air Quality” I’m working on has been selected in the “**Premio PA sostenibile**” as one of the top 100 projects to achieve the goals of the 2030 Agenda.
- 17th May 2019: participation in the event “**Motor Valley Fest 2019**” in Modena to present the European project “TRAF AIR: Understanding Traffic Flows to Improve Air Quality”
- April 2018: research on **crime mapping**, applied on the real data of the thefts in Modena. The data of thefts are extracted from the online news published by “ModenaToday” newspaper and are related to the period from May 2011 to April 2018. The thefts are localized on maps and analysed to provide some statistics of interest. The results are available online (<http://www.dbgroup.unimore.it/theftmap/>).
- In April 2017, I attended the **32nd ACM SIGAPP Symposium On Applied Computing** sponsored by ACM Special Interest Group on Applied Computing (SIGAPP). In particular, I attended the Student Research Competition (SRC) sponsored by Microsoft Research, receiving a grant by the SIGAPP’s Student Travel Award Program (STAP). I presented a poster titled “A Key-Entity Graph for Clustering Multichannel News”. The poster describes a modification of Keygraph in order to consider entities, not just keywords, to cluster the news.
- After my Bachelor’s Degree, I spent some more months working on the refinement of the KeyGraph Algorithm and its evaluation and participated in a joint work with my thesis’ s advisor, Laura Po and a Spanish researcher, Raquel Trillo Lado. The results of this work are presented in a paper titled “Topic detection in multichannel Italian newspapers” at **2nd International Keystone Conference (IKC 2016)**, Cluj-Napoca Romania, 8-9 September 2016.
- September 2016: development and management of the site of **MoRe Modena Racing**, the Formula Student team of Modena.

 Summer Schools, Courses and
Seminars

- September 9 – September 20, 2019: **Siena Summer School on Sustainable Development 2019** organized by Alleanza Italiana per lo Sviluppo Sostenibile (ASviS). The school promotes the contents of the **Agenda 2030** and disseminates knowledge of the **Sustainable Development Goals** to sensitize communities, businesses and individuals on sustainability issues. Through an interdisciplinary approach, the goal is to achieve high-profile training and qualification on environmental, economic and social sustainability issues to address the challenges of sustainable development and promote the adoption of concrete and effective solutions.

- From 3rd June to 7th June 2019: participation in the summer school “**Digital Humanities and Digital Communication: from Digital data to Digital Tools for Research and Publishing**” organized by the University of Modena and Reggio Emilia.
- 22nd May 2019: participation in the seminary “**Emissions from passenger cars and light commercial vehicles: regulations, measurements and technical solutions to limit GHGs and pollutants emissions**” of the engineer Simone Casadei, Head of Mobile Sources Sector – Emission Laboratory of Innovhub-SSI Fuels Department.
- 21st November 2018: participation in the seminary titled “**La qualità dell'aria, i modelli e la pianificazione regionale in Emilia Romagna**” of the Dott. Michele Stortini working in Arpae, the Regional Agency for Prevention, Environment and Energy of Emilia-Romagna, Italy.
- February 2018: participation in the **seminary** titled “Le emozioni delle parole: modellare il contenuto affettivo con la semantica distribuzionale” of the Prof. Lenci (Professor of computational linguistics at University of Pisa).
- January 2018: participation in the **Coding Gym** in Modena. Coding Gym is a lab format developed for practicing programming. It's not a competition, but a way to share knowledge and collaborate with other programmers of various levels. Each developer can choose in which language to program and share the code on the platform.
- December 2017: visit to the **CINECA** datacenter in Bologna
- 21-25th August 2017: participation in the **3rd Keystone Training School** “Keyword search in Big Linked Data”, receiving a grant.
- March 2016: participation in the event “**Open Data Day**” at the University of Modena and Reggio Emilia on the occasion of the Open Data international day.
- 2016: visit in **SIR**, a company leader in creating automated system in Modena.
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- Member of **ACM** and **SIGAPP** association.
- Member of **IEEE** association.

Memberships

First work experience

- August 2011: support in administrative area in the municipality of Caprarica di Lecce (LE) – Italy.

Publications

- Laura Po, Federica Rollo, Chiara Bachechi, Alberto Comi, **From Sensors Data to Urban Traffic Flow Analysis**. In Aawatif Hayar, Parthasarathy Subashini, Constantinos Papadias, Baek-Young Choi, Hatem Ben Sta, Abdelkrim Haqiq: 2019 IEEE International Smart Cities Conference, ISC2 2019, Casablanca, Morocco, October 14-17, 2019. IEEE 2019, ISBN: 978-1-7281-0846-9, pages 466-473
- Laura Po, Federica Rollo, José Ramón Rios Viqueira, Raquel Trillo Lado, Alessandro Bigi, Javier Cacheiro López, Michela Paolucci, Paolo Nesi, **TRAFAIR: Understanding Traffic Flow to Improve Air Quality**. In Aawatif Hayar, Parthasarathy Subashini, Constantinos Papadias, Baek-Young Choi, Hatem Ben Sta, Abdelkrim Haqiq: 2019 IEEE African Workshop on Smart Sustainable Cities and Communities, ASC2 2019 - In conjunction with 2019 IEEE International Smart Cities Conference, ISC2 2019, Casablanca, Morocco, October 14-17, 2019. IEEE 2019, ISBN: 978-1-7281-0846-9, pages 730-737
- Po, Laura and Federica Rollo. “**Building an Urban Theft Map by Analyzing Newspaper Crime Reports.**” 2018 13th International Workshop on Semantic and Social Media Adaptation and Personalization (SMAP) (2018): 13-18
- Rollo Federica, **A Key-Entity Graph for Clustering Multichannel News**. The 32nd ACM SIGAPP Symposium On Applied Computing (2017).
- Po Laura, Rollo Federica, Trillo Lado Raquel (2017) **Topic Detection in Multichannel Italian Newspapers**. In: Cali A., Gorgan D., Ugarte M. (eds) Semantic Keyword-Based Search on Structured Data Sources. KEYSTONE 2016. Lecture Notes in Computer Science, vol 10151. Springer, Cham

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