Martino Mensio

Background

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I am a PhD student, graduated in Computer Engineering, interested in Machine Learning and Explainability. I like to understand how things work and I think that Artificial Intelligence should not just be about algorithms that learn to perform complex tasks; it should be about explainable methods that enable the crowds to understand why things happen, to be able to face and remove bias, correct models and enabling the humans to improve their learning capabilities.

Professional Experience

May 2018-Sept 2019 — Research Assistant at Knowledge Media Institute, The Open University, UK

May-November 2018: Under the supervision of Ilaria Tiddi and Emanuele Bastianelli, I have been working on a Natural Language Interface for an office robot in order to enable a simple exchange of commands with it. During this experience we used a LSTM-attentive network trained on specific commands for the office environment. Beyond simply extracting a label for each sentence, we analysed also the explainability of the model by looking at the attention values and comparing them with the expected values coming from the linguistic frames theory.

November 2018 - September 2019: Working on the Co-Inform european project under the supervision of Harith Alani. I have been developing an application to analyse public Twitter profiles and assess what is their relationship with misinformation, intended as information that was fact-checked by experts or comes from sources with a bad reputation.

Mar 2017-Mar 2018 — Master's thesis project at Istituto Superiore Mario Boella, Torino

Deep Semantic Learning for Conversational Agents

At the conclusion of my studies at Politecnico di Torino, I have been working with the ISMB research institute for my master's thesis project, supervised by Maurizio Morisio (Politecnico) and Giuseppe Rizzo (ISMB). The goals of this research thesis are of two different natures: *i)* analyze the State of the Art in order to identify the approaches that better suit the creation of a Conversational Agent (Natural Language Understanding) *ii)* build a bot prototype that uses the selected approaches. During this period I experimented with Machine Learning, in particular with Neural Networks.

Mar-Sep 2015 — Internship at Scloby SRL, Torino

End-to-End testing and development for an AngularJS application

This internship was done in a startup developing a system for management of activities for small retailers (receipts, inventory, customers). In the first part of the internship I wrote end-to-end tests using Protractor (a framework to do automatic tests on AngularJS apps). The tests simulated the user interactions and checked the correct behaviour of the application. During the second part I moved to the development activity. Using AngularJS I implemented some functionalities of the app. I wrote some controllers, templates and directives.

Education

October 2019 - *Current* — PhD in Data Science
The Open University, topic: Natural Language Processing, Misinformation.

April 2018 — Master's Degree in Computer Engineering
Politecnico di Torino, Major: Software, 110L/110
GPA: 29.93/30 | Detailed List of Exams at page 4

December 2015 — Bachelor's Degree in Computer Engineering
Politecnico di Torino, 109/110
GPA: 28,66/30 | Detailed List of Exams at page 4

Summer 2012 — Scientific High School Diploma
Liceo Scientifico "G.B. Bodoni", Saluzzo, 92/100

Technical Skills

Operating Systems:	Linux (Ubuntu, Arch), Windows (7/8/10), MacOS
Programming Languages:	C, Java, Python, JavaScript, Typescript, PHP
Databases:	Relational (Oracle/SQLite/PostgreSQL) and non-relational (MongoDB)
Web:	Angular, AngularJS, NodeJS, ExpressJS, Spring, Flask
Machine Learning:	Natural Language Processing, Artificial Neural Networks, Deep Learning, Recurrent Neural Networks, Word Embeddings (GloVe), TensorFlow, Keras, SpaCy
Others:	Office suites (Microsoft Office, LibreOffice), IDE (Visual Studio Code, Eclipse, Visual Studio, codeblocks)

Publications

April 2018: Mensio M., Rizzo G., Morisio M. "Multi-turn QA: A RNN Contextual Approach to Intent Classification for Goal-oriented Systems." In *1st International Workshop on Hybrid Question Answering with Structured and Unstructured Knowledge (HQA), The Web Conference 2018*.

April 2018: Mensio M., Rizzo G., Morisio M. "The Rise of Emotion-aware Conversational Agents: Threats in Digital Emotions." In *Re-coding Black Mirror, The Web Conference 2018*.

October 2018: Tiddi I., Bastianelli E., Mensio M., Motta E. "Allowing Exploratory Search from Podcasts: the Case of Secklow Sounds Radio." In *Posters and Demos, ISWC 2018*.

October 2018: Mensio M., Bastianelli E., Tiddi I., Rizzo G. "A Multi-layer LSTM-based Approach for Robot Command Interaction Modeling." In *Workshop on Language and Robotics, IROS 2018*.

October 2018: Piccolo L., Mensio M., Alani H.. "Chasing the Chatbots: Directions for Interaction and Design Research." In *Conversations Workshop, INSCI 2018*.

October 2019: Mensio M., Alani H. "News Source Credibility in the Eyes of Different Assessors." In *Conference for Truth and Trust Online (TTO 2019)*.

October 2019: Mensio M., Alani H. "MisinfoMe: Who's Interacting with Misinformation?" In *Posters and Demos, ISWC 2019*.

March 2020: Bastianelli E., Tiddi I., Rizzo G. "Mitigating Bias in Deep Nets with Knowledge Bases: the Case of Natural Language Understanding for Robots" In *AAAI 2020 Spring Symposium on Combining Machine Learning with Knowledge Engineering*.

April 2020: Mensio M., Willis A., Alani H. "Towards a Cross-article Narrative Comparison of News" In *Third International Workshop on Narrative Extraction from Texts held in conjunction with the 42nd European Conference on Information Retrieval (Text2Story2020 @ ECIR2020)*.

October 2020: Burel G., Farrell T., Mensio M., Khare P., Alani H. "Co-spread of Misinformation and Fact-Checking Content During the Covid-19 Pandemic" In *International Conference on Social Informatics (SocInfo 2020)*.

Conferences and events attended

23-27 April 2018: *The Web Conference 2018*, Lyon, France. The conference was attended to present two papers related to conversational agents.

30 July - 4 August 2018: *WSTNet Web Science Summer School 2018*, Hannover, Germany. The summer school focused on several aspects of social science such as social mining, web and politics, legal regulations.

1-5 October 2018: *IROS 2018*, Madrid, Spain. I presented a poster in the Language and Robotics Workshop about the LSTM-attentive parser.

15-18 December 2018: *HAI 2018*, Southampton, United Kingdom. Attended for the *Measuring and Designing Trust Workshop* where I presented the role of explainability in Natural Language Understanding and how it can be used to convey trust from the user.

10-12 June 2019: CogX 2019, London, United Kingdom. Attended two talks related to misinformation: "Deep Fakes and Disinformation" and "Countering Online Hate with Advanced Computational Methods".

25-28 June 2019: Summer School on Computational Misinformation Analysis, King's College, London, United Kingdom. Attended to get a deep insight on computational approaches for measuring, analysing, predicting and contrasting misinformation online. I also presented the research work that is being carried on with the Co-Inform project.

16-22 September 2019:	The 1st SciRoc challenge, Milton Keynes, United Kingdom. Participated as referee assistant in the robotic competition, with the role to monitor the interaction of the drones with the MK Data Hub.
4-5 October 2019:	Conference for Truth and Trust Online, London, United Kingdom. Attended to present a paper that explores the agreement between different assessors about the credibility of news sources.
11 October 2019:	EurNLP 2019, London, United Kingdom. Attended remotely to keep updated on the latest research on Natural Language Processing.
26-30 October 2019:	ISWC 2019, Auckland, New Zealand. Attended to present a demo developed for the Co-Inform project.
14-17 April 2020:	ECIR 2020. Attended remotely to present a position paper containing the idea I want to develop in my PhD project.
6-9 October 2020:	SocInfo 2020. Attended remotely for two interesting workshops about misinformation.
16-17 October 2020:	TTO 2020. Attended remotely to follow the latest research about misinformation, truthful communication, credibility and trust.

Scholarships

from 2013 to 2017:	Winner of yearly scholarship provided by EDISU Piemonte to university students. Obtained both for my Bachelor's and Master's degree.
Oct 2019 - Sept 2022:	Scholarship for a PhD at The Open University, in KMi and C&C schools.

Master's Degree in Computer Engineering

Grades

Exam	Credits	Grade
Computer architectures	10	30 cum laude
Database management systems	8	30 cum laude
Optimization methods and algorithms	6	30
Computer network technologies and services	6	29
Distributed programming I	6	30 cum laude
Software engineering	8	30
System and device programming	10	30 cum laude
Formal languages and compilers	6	30 cum laude
Distributed programming II	6	30 cum laude
Computer system security	6	30 cum laude
Information systems	6	30
Projects and laboratory on communication systems	6	30 cum laude
Internet applications	6	30 cum laude
	Gpa	**29.93**

Bachelor's Degree in Computer Engineering

Grades

Exam	Credits	Grade
Mathematical analysis I	10	24
English Language 1st level	3	passed
Chemistry	8	25
Digital revolution	6	28
Computer science	8	30
Geometry	10	28
Physics I	10	28
Physics II	6	27
Introduction to electrical engineering	10	30 cum laude
Algorithms and Programming	10	30 cum laude
Mathematical analysis II	8	27
Computer systems	8	30 cum laude
Mathematical methods for engineers	10	28
Systems and electronic technologies	10	28
Computer networks	8	30 cum laude
Final essay	1	30 cum laude
Operating systems	6	27
Signal theory and Signal processing	10	26
Object-oriented programming	6	30 cum laude
Automatic control	10	24
Database	6	30 cum laude
Applied Electronics and Measurement	10	30
Professional Training	10	passed
	Gpa	**28.66**