Paolo Dragone

Last update: 09/11/2017

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Current position

2015-2018   **PhD student**
Department of Information Engineering and Computer Science, University of Trento, Italy.
My PhD is funded by Telecom Italia and I cooperate with the Telecom SKIL Lab in Trento.
My PhD advisor is Prof. Andrea Passerini.

Research interests

My current research work is focused on machine learning, in particular my work is in the intersection of structured-output prediction, online learning and preference elicitation. My PhD thesis project is about "constructive preference elicitation", the task of eliciting the user preferences over a combinatorial space of possible choices. We solve this problem by developing ad-hoc online structured prediction algorithms and using constraint optimization as inference oracle. My broader research interests include online convex optimization, statistical learning theory, deep learning, reinforcement learning, multitask and lifelong machine learning. I am also interested in advancements and applications to neighboring fields such as data mining, natural language processing and information retrieval.

Publications

Conferences & Journals

Dragone, P. & Teso, S. & Passerini, A. (2018) [Accepted] "Decomposition Strategies for Constructive Preference Elicitation". In *AAAI 2018*

Dragone, P. & Teso, S. & Passerini, A. (2018) [Accepted] "Constructive Preference Elicitation over Hybrid Combinatorial Domains". In *AAAI 2018*

Dragone, P. (2017) "Constructive Recommendation". In *RecSys 2017, Doctoral Symposium*

Teso, S. & Dragone, P. & Passerini, A. (2017) "Coactive Critiquing: Elicitation of Preferences and Features". In *AAAI 2017*

Dragone, P. & Lison, P. (2016) "Classification and Resolution of Non-Sentential Utterances in Dialogue". In *Italian Journal of Computational Linguistics.* 2(1), pp 45-61

Dragone, P. & Lison, P. (2015) "An Active Learning Approach to the Classification of Non-Sentential Utterances". In *Proceedings of the 2nd Italian Conference on Computational Linguistics. Young Best Paper Award*

Workshops

Dragone, P. & Erculiani, L. & Chietera, M. T. & Teso, S. & Passerini, A. (2016) "Constructive Layout Synthesis via Coactive Learning". In *Constructive Machine Learning workshop at NIPS 2016*

Teso, S. & Dragone, P. & Passerini, A. (2016) "Structured Feedback for Preference Elicitation in Complex Domains". In *BeyondLabeler workshop at the International Joint Conference on Artificial Intelligence 2016*

Dragone, P. & Lison, P. (2015) "Non-sentential utterances in dialogue: experiments in classification and interpretation". In *Proceedings of the 19th Workshop on the Semantics and Pragmatics of Dialogue.*

Master Thesis

Dragone, P. (2015) "Non-Sentential Utterances in Dialogue: Experiments in Classification and Interpretation". Master Thesis. Sapienza University of Rome.

Education

2013-2015	**M.Sc. in Engineering in Computer Science**	
	Sapienza University of Rome (Italy)	
	Grade: 110/110 with laude	
	Specialization: Artificial Intelligence	
	Thesis: "Non-Sentential Utterances in Dialogue: Experiments in Classification and Interpretation"	
	Advisor: Roberto Navigli	
2015	**Masters thesis abroad**	
	University of Oslo (Norway)	
	External advisor: Pierre Lison	
2014	**Exchange program**	
	University of Melbourne (Australia)	
	Specialization: Information Retrieval, Machine Learning, Advanced Planning, Constraint Programming	
2010-2013	**B.Sc. in Engineering in Computer Science and Control Engineering**	
	Sapienza University of Rome (Italy)	
	Grade: 110/110	

Other activities

2016-2018	**Master thesis co-supervisor**
	Several co-supervised master thesis projects related to Machine Learning.
2016-2018	**Teaching assistant**
	Univerisity of Trento (Italy)
	Teaching laboratory lectures in the Machine Learning graduate course and assistance to the oral examination.
Oct 2017	**Sub-reviewer for AAAI 2018**
August 2017	**ACM Recommender Systems Summer School 2017**
	University of Bolzano (Italy)
June-July 2017	**Visiting PhD student**
	University of Darmstadt (Germany)
	Hosted by: Prof. Kristian Kersting
June 2017	**Google Machine Learning Summit 2017**
	Google Zurich
May 2016	**Machine Learning Summer School 2016**
	University of Cádiz (Spain)
Oct 2016	**Sub-reviewer for AAAI 2017**
Mar-Apr 2017	**Visiting PhD student**
	LIP6, UPMC, Paris (France)
	Hosted by: Dr. Paolo Viappiani

Open source projects

PyMzn
A Python interface for the MiniZinc constraint programming language.
https://github.com/paolodragone/pymzn

Weaver
A Python library for structured-output prediction over combinatorial domains (under development).
https://github.com/unitn-sml

Work experience

2012-2013	**Software engineer**
	Full-stack web development in ASP.NET and Java
	Brains Engineering
	Rome (Italy)
	Website: www.brainsen.com

Skills

Machine Learning	Strong background in statistical learning theory, discriminative learning, structured-output prediction, online learning, deep learning, optimization, recommendation systems. Also interested in reinforcement learning, probabilistic inference and modelling, statistical relational learning.
Artificial Intelligence	Extensive application of constraint programming on current research work. Fair background on other related AI topics such as data mining, natural language processing, information retrieval.
Computer Science	College level background on algorithms and data structures, complexity and computability, dynamic programming, operating systems, database management systems, software engineering.
Programming	Mainly work with Python. Currently applying many well known Python libraries for Machine Learning, such as Numpy, Scipy, Scikit-learn, TensorFlow, Keras, NLTK, and others. Proficient with Git for version controlling and the Bash command line. Mainly working on the Linux operating system. Worked in the past also with Java and Javascript for full-stack web developing.
Mathematics & Science	Strong foundations in algebra, calculus and probability theory; active use of these in research work. College level background in discrete mathematics, geometry, analysis, physics.

Languages

Mother tongue: Italian
Other languages:

	Listening	Reading	Speaking	Writing
English	C1	C1	C1	C1
		TOEFL ibt (99/120)		

Personal qualities

Open minded, sociable, lifelong learner, nerd, geek, binge watcher, player. Passionate about science and technology in general. Spend much of my free time watching scientific videos on YouTube and playing strategic videogames and boardgames. Love to engage discussions about fascinating ideas and interesting news.