

# Alessandro Sordoni

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## Education

- 2011- **PhD Candidate in Information Retrieval.** Université de Montréal. Investigation of representation learning techniques for IR.
- 07/2012 **Machine Learning Summer School.** University of California at Santa Cruz.
- 2006-2008 **M. Sc. in Multi-agent Systems.** University of Paris VI. Multi-agent systems to promote biodiversity conservation and social inclusion.

## Research Experience

- 2015 **Intern @ Google** with Radu Soricut, Google Research, Mountain View. Representation learning for Google Translate.
- 2014 **Intern @ Microsoft** with Jianfeng Gao, Microsoft Research, Redmond. Deep-learning for sentence generation in open-domain conversational systems.
- 2014 **Intern @ University of Copenhagen** with Christina Lioma, Copenhagen. Deep-learning models for query reformulations in search engines.
- 2010 **Research Engineer @ UdeM** with Guy Lapalme, Data Visualization, Montréal. Front-end/back-end prototype architecture for environmental data visualization
- 2008-2009 **Research Engineer @ UPMC in MAS for Decision Support** with Jean-Pierre Briot. Front-end/Back-end developer of SimParc, a serious game based on multi-agent systems.

## Publications

### Book chapters

- 2013 Nunzio, G. M. D. and Sordoni, A. Picturing Bayesian Classifiers: A Visual Data Mining Approach to Parameters Optimization. In *Data Mining Applications With R*. Elsevier, pages 35–60. 2013.

### Journals

- 2010 Sordoni, A. et al. Design of a participatory decision making agent architecture based on argumentation and influence function. In *RAIRO - Operations Research*. 44(4):269–283.

### Conferences

- 2016 I. Serban, A. Sordoni, Y. Bengio, A. Courville and J. Pineau. Building End-To-End Dialogue Systems Using Generative Hierarchical Neural Networks. In *Proc of AAAI*, 2016.

- 2015 A. Sordoni, Y. Bengio, H. Vahabi, C. Lioma, J.G. Simonsen and J.-Y. Nie. A Hierarchical Recurrent Encoder-Decoder for Generative Context-Aware Query Suggestion, CIKM, 2015.  
M. Galley, C. Brockett, A. Sordoni, Y. Ji, M. Auli, C. Quirk, M. Mitchell, J. Gao, B. Dolan. deltaBLEU: A Discriminative Metric for Generation Tasks with Intrinsically Diverse Targets, ACL, 2015.  
A. Sordoni, M. Galley, M. Auli, C. Brockett, Y. Ji, M. Mitchell, J.-Y. Nie, J. Gao, B. Dolan. A Neural Network Approach to Context-Sensitive Generation of Conversational Responses. NAACL-HLT, 2015.
- 2014 Sordoni, A., Bengio, Y. and J.Y. Nie. Learning Concept Embeddings for Query Expansion, In Proc of AAAI 2014.  
Liu, X., Bouchoucha, A., Sordoni, A. and J.Y. Nie. Compact Aspect Embedding For Diversified Query Expansion., In Proc of AAAI 2014.
- 2013 Sordoni, A., Wei, Y. and Nie, J. Y., Universit'e de Montr'eal at TREC 2013: Experiments with Quantum Language Models in the Web Track, TREC 2013.  
Sordoni, A., Nie, J.Y. and Bengio, Y., Modeling Term Dependencies with Quantum Language Models for IR, SIGIR 2013.  
Sordoni, A., Nie, J.Y., Looking at Vector Space and Language Models for IR using Density Matrices, QI 2013.  
Sordoni, A., He, J., Nie, J.Y., Modeling Latent Topic Interactions using Quantum Interference for IR, CIKM 2013.
- 2012 Di Nunzio, G.M., Sordoni A. A visual tool for Bayesian data analysis: the impact of smoothing on Naive-Bayes text classifiers. SIGIR 2012. Di Nunzio, G.M., Sordoni A. How well do we know Bernoulli? IIR 2012.
- 2009 Briot, J-P., Sordoni A., Vasconcelos, E., Irving, M. Sebba-Patto, V. and Alvarez, I. Design of a decision maker agent for a distributed role playing game - experience of the SimParc project. AGS 2009.

## Grants & Awards

- 2014 **Nvidia Academic Research Program**  
2013 **Google travel grant**, for attending ICTIR 2013 conference.  
2012 **DIRO Excellence Award**, for PhD students.

## Skills & Languages

- Languages C++/CUDA, Python (Theano), C, Java, Jason / Agentspeak.  
Web XML/XSLT/XPath, PHP, CSS, J2EE, Hibernate, Spring, JSF, JSP, JavaScript/JQuery.  
IR Indri, Lucene.  
Spoken Italian, French, English.

## Other Education

- 2009 **Conservatory for Dramatic Arts**, Gabriel Fauré, Paris.