Antoine Bosselut

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EDUCATION

Doctor of Philosophy, University of Washington, Seattle, WA — 2014 - Present
Major: Computer Science
Research Areas: Natural Language Processing, Machine Learning
Advisor: Yejin Choi

Master of Science, University of Washington, Seattle, WA — 2014 - 2016
Major: Computer Science

Bachelor of Engineering, McGill University, Montreal, QC — 2009 - 2014
Major: Honours Electrical Engineering
Minor: Finance

PUBLICATIONS & PREPRINTS

Antoine Bosselut, Hannah Rashkin, Maarten Sap, Chaitanya Malaviya, Asli Celikyilmaz, and Yejin Choi. COMET: Commonsense Transformers for Automatic Knowledge Graph Construction. In *Proceedings of the Association for Computational Linguistics (ACL)*. 2019.

Saadia Gabriel, **Antoine Bosselut**, Ari Holtzman, Kyle Lo, Asli Celikyilmaz and Yejin Choi. Cooperative Generator-Discriminator Networks for Abstractive Summarization with Narrative Flow. In *arXiv preprint arXiv:1907.01272*. 2019.

Andrew Hoang, **Antoine Bosselut**, Asli Celikyilmaz, and Yejin Choi. Efficient Adaptation of Pretrained Transformers for Abstractive Summarization. In *arXiv preprint arXiv:1906.00138*. 2019.

Lianhui Qin, **Antoine Bosselut**, Ari Holtzman, Chandra Bhagavatula, Elizabeth Clark and Yejin Choi. Counterfactual Story Reasoning and Generation. Accepted In *Empirical Methods in Natural Language Processing (EMNLP)*. 2019.

Bhavana Dalvi, Niket Tandon, **Antoine Bosselut**, Wen-tau Yih and Peter Clark. Everything Happens for a Reason: Discovering the Purpose of Actions in Procedural Text. Accepted In *Empirical Methods in Natural Language Processing (EMNLP)*. 2019.

Niket Tandon, Bhavana Dalvi, Keisuke Sakaguchi, Peter Clark and **Antoine Bosselut**. WIQA: A dataset for "What if..." reasoning over procedural text. Accepted In *Empirical Methods in Natural Language Processing (EMNLP)* (**short**). 2019.

Xinya Du, Bhavana Dalvi, Niket Tandon, **Antoine Bosselut**, Wen-tau Yih, Peter Clark and Claire Cardie. Be Consistent! Improving Procedural Text Comprehension using Label Consistency. In *Proceedings of the North American Chapter of the Association for Computational Linguistics (NAACL)*. 2019.

Antoine Bosselut, Omer Levy, Ari Holtzman, Corin Ennis, Dieter Fox, and Yejin Choi. Simulating action dynamics with neural process networks. In *Proceedings of the 6th International Conference on Learning Representations (ICLR)*. 2018.

Antoine Bosselut, Asli Celikyilmaz, Xiaodong He, Jianfeng Gao, Po-sen Huang, and Yejin Choi. Discourse-aware neural rewards for coherent text generation. In *Proceedings of the North American Chapter of the Association for Computational Linguistics (NAACL)*. 2018.

Asli Celikyilmaz, **Antoine Bosselut**, Xiaodong He, and Yejin Choi. Deep communicating agents for abstractive summarization. In *Proceedings of the North American Chapter of the Association for Computational Linguistics (NAACL)*. 2018.

Hannah Rashkin, **Antoine Bosselut**, Maarten Sap, Kevin Knight, and Yejin Choi. Modeling Naïve Psychology of Characters in Simple Commonsense Stories. In *Proceedings of the Association for Computational Linguistics (ACL)*. 2018.

Ari Holtzman, Jan Buys, Maxwell Forbes, **Antoine Bosselut**, David Golub, and Yejin Choi. Learning to Write with Cooperative Discriminators. In *Proceedings of the Association for Computational Linguistics (ACL)*. 2018.

Niket Tandon, Bhavana Dalvi, Joel Grus, Wen-tau Yih, **Antoine Bosselut**, and Peter Clark. Reasoning about Actions and State Changes by Injecting Commonsense Knowledge. In *Empirical Methods in Natural Language Processing (EMNLP)*. 2018.

Antoine Bosselut, Jianfu Chen, David Warren, Hannaneh Hajishirzi, and Yejin Choi. Learning prototypical event structure from photo albums. In *Proceedings of the Association for Computational Linguistics (ACL)*. 2016

Antoine Bosselut. Covariance estimation in portfolio optimization. *Bachelor's Degree Thesis, McGill University*. 2013

AWARDS & HONORS

AI2 Key Scientific Challenges Award	2018
Dean's Honor List	2010, 2012 - 2014
Brian Cullen Memorial Award	2013
Brodeur-Drummond Scholarship	2012
Motorola Foundation Scholarship	2010
Alma Mater Scholarship	2009
Certificate of Meritorious Service	2009

SKILLS

Languages: *Fluent*: Python, Lua, Java; *Functional*: HTML, SQL, MATLAB, LaTeX.
Packages/Tools: PyTorch, Torch7, NumPy, SciPy, Pandas, Scikit-learn, NLTK
Languages: *Fluent*: English, French; *Beginner*: Spanish

EXPERIENCE

Student Researcher 2018 - Present
Allen Institute for Artificial Intelligence Seattle, WA
Ongoing projects related to integrating common sense reasoning into internal transformations of neural network architectures.

Student Researcher 2017 - 2018
Microsoft Research Redmond, WA
Investigated multi-agent architectures for learning to exhibit diverse behaviors in dialogue response generation

Research Intern 2017
Microsoft Research Redmond, WA
Investigated neural scoring functions for evaluating discourse structure in recipes and using them to train coherent recipe generators. Work published at *NAACL* 2018.

Technology Summer Analyst 2011
Morgan Stanley Montreal, QC
Designed internal search engine to locate information security officers, improving efficiency of granting authorizations for sensitive applications.

Bioinformatics Intern 2010
National Institutes of Health (NIH) Bethesda, MD
Advised by John O'Shea and Golnaz Vahedi. Identified non-protein-coding RNAs based on epigenetic markers in large-scale DNA sequencing data.

TEACHING

Teaching Assistant
Machine Learning, University of Washington 2015
Foundations of Computing I, University of Washington 2014
Design Principles and Methods, McGill University 2013 - 2014

Lectures
Transformers for Deep Contextual Representations - University of Washington 2019
GANs for Text Generation - University of Washington 2018
Reinforcement Learning for Text Generation - University of Washington 2017
RNNs and LSTMs - University of Washington 2015
Clustering and EM for GMMs - University of Washington 2015
Naïve Bayes - University of Washington 2015
Threads and Synchronization - McGill University 2014

PRESENTATIONS

Research Talks
COMET: Commonsense Transformers for Automatic Knowledge Graph Construction
Association for Computational Linguistics Conference (Poster) 2019
West Coast NLP (WeCNLP) Workshop (Spotlight & Poster) 2019
Allen Institute for Artificial Intelligence Team Meeting 2019
DARPA Communicating with Computers Meeting 2019

Discourse-aware Neural Rewards for Coherent Text Generation
SRI DIVA Site Visit 2019
North American Association for Computational Linguistics Conference (Poster) 2018
Microsoft Research AI Breakthroughs Workshop (Poster) 2018
Samsung Research Seminar 2018

Simulating Action Dynamics with Neural Process Networks
International Conference for Learning Representations (Poster) 2018
5th Pacific Northwest Regional NLP Workshop 2018
Allen Institute for Artificial Intelligence (AI2) Invited Talk 2018
Samsung Research Seminar 2018
DARPA Communicating with Computers Meeting 2017
UW CSE Affiliates Day 2017

Deep Communicating Agents for Abstractive Summarization
North American Association for Computational Linguistics Conference (Poster) 2018

Modeling Naïve Psychology of Characters in Simple Commonsense Stories
DARPA Communicating with Computers Meeting 2018

Learning Prototypical Event Structure from Photo Albums
Association for Computational Linguistics Conference (Oral) 2016
University of Washington PhD Qualifying Exam 2016
UW CSE Affiliates Day (Poster) 2015

Coherent Text Generation from Structured Context
DARPA Communicating with Computers Meeting 2016

Portfolio Management using Minimum Variance Distortionless Response Filtering
Bachelor's Degree Thesis Defense 2013

Miscellaneous
Graduate School: Is it the right next step?
McGill University Invited Talk 2015

CoPilot Solutions: Professional Cloud Accounting
Rho Canada Ventures Pitch 2013

SERVICE

Organizing Committee:
NAACL Workshop on Optimizing and Evaluating Neural Generation (NeuralGen) 2019
West Coast NLP Summit (WeCNLP) 2018, 2019

Conference Program Committee/Reviewer (OR - Outstanding Reviewer):
AAAI Conference on Artificial Intelligence (*AAAI*) 2019
Association for Computational Linguistics (*ACL*) 2018 (**OR**)
Conference on Computer Vision and Pattern Recognition (*CVPR*) 2017
Empirical Methods in Natural Language Processing (*EMNLP*) 2016, 2018, 2019
International Conference for Learning Representations (*ICLR*) 2019
International Conference for Machine Learning (*ICML*) 2019
International Conference on Computational Linguistics (*COLING*) 2018
International Joint Conference on Natural Language Processing (*IJCNLP*) 2017
Neural Information Processing Systems (*NeurIPS*) 2019
North American Association for Computational Linguistics (*NAACL*) 2019 (**OR**)

Workshop Program Committee/Reviewer
NAACL Workshop on Optimizing and Evaluating Neural Generation (*NeuralGen*) 2019
NAACL Workshop on Narrative Understanding (*WNU*) 2019
NAACL Workshop on Generalization in Deep Learning and NLP (*GenDeep*) 2018

Miscellaneous:
University of Washington CSE Graduate Admissions Committee 2019
University of Washington NLP PR Committee 2019
University of Washington CSE Visit Days Organizing Committee 2016
University of Washington CSE TGIF Committee 2016
University of Washington NLP Reading Groups 2016

PROFESSIONAL ACTIVITIES

Business Plan, Co-Pilot Solutions 2013
Constructed business plan for a sole proprietor and small business accounting software firm. Pitched business model to Rho Canada Ventures.

McGill-iNovia Tech Innovation Day Organizing Committee 2012 - 2013
Managed $11,000 budget raised from corporate sponsors to fund the conference.
Press: `http://www.techvibes.com/blog/mcgill-tech-innovation-day-2013-04-05`