He He

Personal

Email: hehe@cs.nyu.edu
Homepage: hhexiy.github.io

Education

2011–2016 **University of Maryland, College Park**
Ph.D. in Computer Science (M.Sc. in Computer Science received in 2013)
Advisors: Hal Daumé III, Jordan Boyd-Graber

2007–2011 **The Hong Kong Polytechnic University**
B.Eng. in Electronic and Information Engineering

Work Experience

2020– **Amazon Web Services**, New York, NY
Amazon Visiting Academic

2019– **New York University**, New York, NY
Assistant Professor

2018–2019 **Amazon Web Services**, Palo Alto, CA
Senior Applied Scientist

2016–2018 **Stanford University**, Stanford, CA
Post-doc Supervisor: Percy Liang

Summer 2015 **Microsoft Cloud Information and Service Lab**, Redmond, WA
Research Intern Mentors: Paul Mineiro, Nikos Karampatziakis

Summer 2013 **Microsoft Research**, Redmond, WA
Research Intern Mentors: Lihong Li, Jason Williams

Awards and Honors

2020 EMNLP outstanding reviewer
2016 Larry S. Davis Dissertation Award
2016 UMD Board of Visitors Graduate Student Award
2015 NeurIPS Best Demonstration Award
2015 Tammy L. Blair Award 2nd runner-up, Fusion

Publications

(* indicates equal contribution)

Refereed journal publications

Lifu Tu, Garima Lalwani, Spandana Gella and **He He**. An Empirical Study on Robustness to Spurious Correlations using Pre-trained Language Models. *Transaction of Association for Computational Linguistics (TACL) 8:, 2020*.

Jian Guo, **He He**, Tong He, Leonard Lausen, Mu Li, Haibin Lin, Xingjian Shi, Chenguang Wang, Junyuan Xie, Sheng Zha, Aston Zhang, Hang Zhang, Zhi Zhang, Zhongyue Zhang, Shuai Zheng and Yi Zhu. GluonCV and GluonNLP: Deep Learning in Computer Vision and Natural Language Processing. *Journal of Machine Learning Research (JMLR) 21:1–7, 2020*.

Peer-reviewed conference papers

Udit Arora, William Huang and **He He**. Types of Out-of-Distribution Texts and How to Detect Them. *Empirical Methods in Natural Language Processing (EMNLP)*, 2021.

Vishakh Padmakumar and **He He**. Unsupervised Extractive Summarization with Pointwise Mutual Information. *The European Chapter of the Association for Computational Linguistics (EACL)*, 2021.

Richard Yuanzhe Pang and **He He**. Text Generation by Learning from Demonstrations. *International Conference on Learning Representations (ICLR)*, 2021.

Esin Durmus, **He He** and Mona Diab. FEQA: A Question Answering Evaluation Framework for Faithfulness Assessment in Abstractive Summarization. *Association for Computational Linguistics (ACL)*, 2020.

He He*, Nanyun Peng* and Percy Liang. Pun Generation with Surprise. *North American Chapter of the Association for Computational Linguistics (NAACL)*, 2019.

Yiheng Zhou, **He He**, Alan Black and Yulia Tsvetkov. A Dynamic Strategy Coach for Effective Negotiation. *Special Interest Group on Discource and Dialogue (SigDial)*, 2019.

He He, Derek Chen, Anusha Balakrishnan and Percy Liang. Decoupling Strategy and Generation in Negotiation Dialogues. *Empirical Methods in Natural Language Processing (EMNLP)*, 2018.

Eunsol Choi*, **He He***, Mohit Iyyer*, Mark Yatskar*, Wen-tau Yih, Yejin Choi, Percy Liang and Luke Zettlemoyer. QuAC: Question Answering in Context. *Empirical Methods in Natural Language Processing (EMNLP)*, 2018.

Urvashi Khandelwal, **He He**, Peng Qi and Dan Jurafsky. Sharp Nearby, Fuzzy Far Away: How Neural Language Models Use Context. *Association for Computational Linguistics (ACL)*, 2018.

Juncen Li, Robin Jia, **He He** and Percy Liang. Delete, Retrieve, Generate: a Simple Approach to Sentiment and Style Transfer. *North American Chapter of the Association for Computational Linguistics (NAACL)*, 2018.

He He, Anusha Balakrishnan, Mihail Eric and Percy Liang. Learning Symmetric Collaborative Dialogue Agents with Dynamic Knowledge Graph Embeddings. *Association for Computational Linguistics (ACL)*, 2017.

Kai-Wei Chang, **He He**, Hal Daumé III, John Langford and Stéphane Ross. Credit Assignment Compiler for Joint Prediction. *Neural Information Processing Systems (NeurIPS)*, 2016.

He He, Jordan Boyd-Graber, Kevin Kwok and Hal Daumé III. Opponent Modeling in Deep Reinforcement Learning. *International Conference on Machine Learning (ICML)*, 2016.

He He, Jordan Boyd-Graber and Hal Daumé III. Interpretese vs. Translationese: The Uniqueness of Human Strategies in Simultaneous Interpretation. *North American Chapter of the Association for Computational Linguistics (NAACL)*, 2016.

Xi Chen, **He He** and Larry Davis. Object Detection in 20 Questions. *Winter Conference on Applications of Computer Vision (WACV)*, 2016.

He He, Alvin Grissom II, John Morgan, Jordan Boyd-Graber and Hal Daumé III. Syntax-based Rewriting for Simultaneous Machine Translation. *Empirical Methods in Natural Language Processing (EMNLP)*, 2015.

Xiangyang Liu, **He He** and John Baras. Crowdsourcing with Multi-Dimensional Trust. *International Conference on Information Fusion (Fusion)*, 2015.

Xiangyang Liu, **He He** and John Baras. Trust-Aware Optimal Crowdsourcing With Budget Constraint. *International Conference on Communications (ICC)*, 2015.

Lihong Li, **He He** and Jason D. Williams. Temporal Supervised Learning for Inferring a Dialog Policy from Example Conversations. *Spoken Lanugage Technology Workshop (SLT)*, 2014.

He He, Hal Daumé III and Jason Eisner. Learning to Search in Branch and Bound Algorithms. *Neural Information Processing Systems (NeurIPS)*, 2014.

Alvin Grissom II, **He He**, John Morgan, Jordan Boyd-Graber and Hal Daumé III. Don't Until the Final Verb Wait: Reinforcement Learning for Simultaneous Machine Translation. *Empirical Methods in Natural Language Processing (EMNLP)*, 2014.

He He, Hal Daumé III and Jason Eisner. Dynamic Feature Selection for Dependency Parsing. *Empirical Methods in Natural Language Processing (EMNLP)*, 2013.

He He, Hal Daumé III and Jason Eisner. Imitation Learning by Coaching. *Neural Information Processing Systems (NeurIPS)*, 2012.

Jordan Boyd-Graber, Brianna Satinoff, **He He** and Hal Daumé III. Besting the Quiz Master: Crowdsourcing Incremental Classification Games. *Empirical Methods in Natural Language Processing (EMNLP)*, 2012.

He He and Wan-Chi Siu. Single Image Super-resolution using Gaussian Process Regression. *Computer Vision and Pattern Recognition (CVPR)*, 2011.

He He and Ali Ghodsi. Rare Class classification with SVM. *International Conference on Pattern Recognition (ICPR)*, 2010.

Peer-reviewed workshop papers

He He, Sheng Zha and Haohan Wang. Unlearn Dataset Bias for Natural Language Inference by Fitting the Residual. *EMNLP Workshop on DeepLo*, 2019.

He He, Paul Mineiro and Nikos Karampatziakis. Active Information Acquisition. *ICML Workshop on Machine Learning From and For Adaptive User Technologies: From Active Learning & Experimentation to Optimization & Personalization*, 2015.

He He, Hal Daumé III and Jason Eisner. Cost-sensitive dynamic feature selection. *ICML Workshop on Inferning*, 2012.

Technical reports

Faisal Ladhak, Esin Durmus, **He He**, Claire Cardie and Kathleen McKeown. Faithful or Extractive? On Mitigating the Faithfulness-Abstractiveness Trade-off in Abstractive Summarization. *arXiv:2108.13684 preprint*, 2021.

Nitish Joshi and **He He**. An Investigation of the (In)effectiveness of Counterfactually Augmented Data. *arXiv:2107.00753 preprint*, 2021.

Petro Rodriguez, Shi Feng, Mohit Iyyer, **He He** and Jordan Boyd-Graber. Quizbowl: The Case for Incremental Question Answering. *arXiv:1904.04792 preprint*, 2019.

Kai-Wei Chang, **He He**, Hal Daumé III and John Langford. Learning to Search for Dependencies. *arXiv:1503.05615 preprint*, 2015.

Teaching

University courses

2020, 2021 DS-GA.1003 Machine Learning
2020, 2021 CSCI-GA.2597 Natural Language Processing

Tutorials

2021 Tutorial on Robustness and Adversarial Examples in Natural Language Processing, EMNLP
(with Kai-Wei Chang, Sameer Singh and Robin Jia)
2019 Tutorial on Dive into Deep Learning for Natural Language Processing, EMNLP
(with Haibin Lin, Xingjian Shi, Leonard Lausen, Aston Zhang, Sheng Zha and Alexander Smola)
2015 Tutorial on Learning to Search for Structured Prediction, NAACL
(with Hal Daumé III, John Langford, Kai-Wei Chang and Sudha Rao)

Invited Talks

2021 University of Pennsylvania, NLP seminar (remote)
2021 University of Notre Dame, NLP seminar (remote)
2021 Recent Advances in NLP, keynote (remote)
2021 National Univeristy of Singapore, NLP seminar (remote)
2021 Princeton Univeristy, NLP seminar (remote)
2021 CVPR Workshop on Visual Question Answering (remote)
2021 University of California, Los Angeles, Department of Computer Science (remote)
2021 University of Maryland, College Park, CLIP Colloquium (remote)
2021 University of Massachusetts, Amherst, Machine Learning and Friends (remote)
2021 University of Massachusetts, Lowell, Department of Computer Science Colloquium (remote)
2021 Search Engine Amsterdam Meetup (remote)
2021 NYC Media Lab Working Group (remote)
2020 Microsoft Research Asia (remote)
2020 Vector Institute NLP Symposium (remote)
2020 ACL Workshop on Neural Generation and Translation (remote)
2019 IBM Thomas J. Watson Research Center, Yorktown Heights, NY
2019 Workshop on Machine Learning for Network Data, New York, NY
2019 NAACL Workshop on Structured Prediction for NLP
2019 NAACL Workshop on Methods for Optimizing and Evaluating Neural Language Generation
2018 NeurIPS Workshop on Emergent Communication
2018 Carnegie Mellon University, LTI Colloquium
2018 West Coast NLP Summit, Menlo Park, CA
2018 Google Brain, Mountain View, CA
2018 Amazon Web Services, East Palo Alto, CA
2018 Facebook AI Research, Menlo Park, CA
2018 University of Southern California, Department of Computer Sciences
2018 University of California, San Diego, Department of Computer Sciences
2018 University of California, Irvine, School of Information and Computer Sciences

2018 University of California, Berkeley, Department of Electrical Engineering and Computer Sciences
2018 University of Chicago, Department of Computer Sciences
2018 Toyota Technological Institute at Chicago
2018 New York University, Department of Computer Sciences
2018 Princeton University, Department of Computer Sciences
2018 Carnegie Mellon University, Language Technology Institute and Machine Learning Department
2018 University of North Carolina, Chaple Hill, Department of Computer Science
2018 Geogia Institute of Technology, Collge of Computing
2018 McGill University, School of Computer Science
2017 University of Southern California, Information Sciences Institute
2017 University of California, Berkeley, School of Information
2017 Shanghai Jiaotong University, John Hopcroft Center for Computer Science
2017 Allen Institute for AI, Seattle, WA
2017 Salesforce Research, Palo Alto, CA
2017 Amazon Web Services, East Palo Alto, CA
2015 University of Pennsylvania, Department of Computer and Information Science
2015 University of Colorado, Boulder, Department of Computer Science
2015 Microsoft Research, New York, NY

Professional Activities

Reviewing

Conference: ACL, NAACL, EMNLP, NeurIPS, ICML, AAAI, AISTATS
Journal: TACL, JMLR, Machine Learning, TPAMI
Area chair: AACL 2020, ACL 2020, NAACL 2019

Workshop organization

2021 Co-organizer, ACL Workshop on Document-grounded Dialogue
2019 Co-organizer, ICML Workshop on Imitation, Intent, and Interaction
2018 Co-organizer, ACL Workshop on Representation Learning for NLP
2017 Co-chair, ACL Workshop for Women and Underrepresented Minorities in NLP
2016 Co-chair, ACL Student Research Workshop
2016 Co-organizer, NAACL Workshop on Human-computer Question Answering
2015 Co-organizer, Mid-Atlantic Student Colloquium on Speech, Language and Learning

Students

Ph.D. students

- Nicholas Lourie (co-advised with Kyunghyun Cho), Computer Science, 2021 –
- Vishakh Padmakumar, Center for Data Science, 2020 –
- Nitish Joshi, Computer Science, 2020 –
- Yuanzhe Pang (co-advised with Kyunghyun Cho), Computer Science, 2019 –