Wei Xu

(Last updated: September 9, 2021)

RESEARCH Natural Language Processing, Machine Learning, Social Media

CITIZENSHIP United States

EDUCATION Ph.D. in Computer Science, New York University, New York, NY

2014

Advisor: Ralph Grishman; Committee: Satoshi Sekine, Ernest Davis, Bill Dolan (Microsoft Research),

Luke Zettlemoyer (University of Washington/Facebook AI Research)

B.S. and M.S. in Computer Science, Tsinghua University, Beijing, CHINA 2004/2007

APPOINTMENTS Assistant Professor, Georgia Institute of Technology, Atlanta, GA

Aug 2020 - Present

School of Interactive Computing

Adjunct Assistant Professor, The Ohio State University, Columbus, OH Au

Aug 2020 – July 2021

Department of Computer Science and Engineering

Assistant Professor, The Ohio State University, Columbus, OH

Aug 2016 – July 2020

Department of Computer Science and Engineering

Visiting Faculty, Carnegie Mellon University, Pittsburgh, PA

Summer 2019

Language Technologies Institute (Host: Graham Neubig)

Postdoctoral Researcher, University of Pennsylvania, Philadelphia, PA

Feb 2014 – Aug 2016

Computer Information and Science Department (Advisor: Chris Callison-Burch)

Visiting PhD Student, University of Washington, Seattle, WA Jan 2012 – Dec 2013

Computer Science and Engineering Department

Awards NSF CRII Award, 2018

Best Paper Award, COLING, 2018

Criteo Faculty Research Award (\$20,000), 2018

CrowdFlower AI for Everyone Award (\$25,000), 2018

NYU MacCracken PhD Fellowship, 2007 - 2012

PROFESSIONAL SERVICES

Best Paper Award Committee: EMNLP (2018); Senior Area Chair: NAACL (2021), ACL (2020); Area Chair: EMNLP (2021, 2020, 2018, 2016), AAAI (2020), ACL (2019), NAACL (2019), COLING (2018); Program Committee: ACL (2021, 2018, 2017, 2015, 2014, 2013), EMNLP (2017, 2015, 2014), NAACL (2015), WWW (2017, 2016, 2015), AAAI (2016, 2015, 2012), KDD (2015), COLING (2014); Publicity Chair: EMNLP (2019), NAACL (2018, 2016); Workshop Chair: ACL (2017).

Journal Reviewer: Transactions of the Association for Computational (TACL), Journal of Artificial Intelligence Research (JAIR).

Organizer: Workshop on Natural Language Generation, Evaluation, and Metrics at ACL (2021); Workshop on Noisy User-generated Text (http://noisy-text.github.io/) at EMNLP (2021, 2020, 2019, 2018, 2017), COLING (2016), ACL (2015); Mid-Atlantic Student Colloquium on Speech, Language and Learning (2016).

Publications

(<u>Underline</u> is used to indicate student advisees at the Georgia Tech and Ohio State University.)

BiSECT: Learning to Split and Rephrase Sentences with Bitexts

Joongwon Kim, Mounica Maddela*, Reno Kriz, Wei Xu, Chris Callison-Burch (*equal contribution)

EMNLP 2021, long paper

Pre-train or Annotate? Domain Adaptation with a Constrained Budget

Fan Bai, Alan Ritter, Wei Xu

EMNLP 2021

WIKIBIAS: Detecting Multi-Span Subjective Biases in Language

Yang Zhong, Jingfeng Yang, Wei Xu, Diyi Yang

EMNLP 2021 (Findings)

Neural semi-Markov CRF for Monolingual Word Alignment Wuwei Lan*, Chao Jiang*, Wei Xu (*equal contribution)

ACL 2021, long paper

Controllable Text Simplification with Explicit Paraphrasing Mounica Maddela, Fernando Alva-Manchego, Wei Xu

NAACL 2021, long paper

The GEM Benchmark: Natural Language Generation, its Evaluation and Metrics

Sebastian Gehrmann, Tosin Adewumi, Karmanya Aggarwal, Pawan Sasanka Ammanamanchi, Anuoluwapo Aremu, Antoine Bosselut, Khyathi Raghavi Chandu, Miruna-Adriana Clinciu, Dipanjan Das, Kaustubh Dhole, Wanyu Du, Esin Durmus, OndÅŹej DuÅąek, Chris Chinenye Emezue, Varun Gangal, Cristina Garbacea, Tatsunori Hashimoto, Yufang Hou, Yacine Jernite, Harsh Jhamtani, Yangfeng Ji, Shailza Jolly, Mihir Kale, Dhruv Kumar, Faisal Ladhak, Aman Madaan, Mounica Maddela, Khyati Mahajan, Saad Mahamood, Bodhisattwa Prasad Majumder, Pedro Henrique Martins, Angelina McMillan-Major, Simon Mille, Emiel van Miltenburg, Moin Nadeem, Shashi Narayan, Vitaly Nikolaev, Andre Niyongabo Rubungo, Salomey Osei, Ankur Parikh, Laura Perez-Beltrachini, Niranjan Ramesh Rao, Vikas Raunak, Juan Diego Rodriguez, Sashank Santhanam, JoÃčo Sedoc, Thibault Sellam, Samira Shaikh, Anastasia Shimorina, Marco Antonio Sobrevilla Cabezudo, Hendrik Strobelt, Nishant Subramani, Wei Xu, Diyi Yang, Akhila Yerukola, Jiawei Zhou (alphabetically ordered)

ACL 2021 Workshop on Natural Language Generation, Evaluation, and Metrics

An Empirical Study of Pre-trained Transformers for Arabic Information Extraction

Wuwei Lan, Yang Chen, Wei Xu, Alan Ritter

EMNLP 2020, short paper (acceptance rate 16.7%)

WNUT-2020 Task 1 Overview: Extracting Entities and Relations from Wet Lab Protocols

Jeniya Tabassum, Sydney Lee, Wei Xu, Alan Ritter

EMNLP 2020 Workshop on Noisy User-generated Text (shared-task overview)

Neural CRF Model for Sentence Alignment in Text Simplification

Chao Jiang, Mounica Maddela, Wuwei Lan, Yang Zhong, Wei Xu

ACL 2020, long paper (acceptance rate 25.2%)

 $An\ Empirical\ Study\ of\ Named\ Entity\ Recognition\ in\ StackOverflow$

Jeniya Tabassum, Mounica Maddela, Wei Xu, Alan Ritter

ACL 2020, long paper (acceptance rate 25.2%)

Generalizing Natural Language Analysis through Span-relation Representations

Zhengbao Jiang, Wei Xu, Jun Araki, Graham Neubig

ACL 2020, long paper (acceptance rate 25.2%)

Learning Relation Entailment with Structured and Textual Information

Zhengbao Jiang, Jun Araki, Donghan Yu, Ruohong Zhang, Wei Xu, Yiming Yang, Graham Neubig AKBC 2020, long paper

Discourse Level Factors for Sentence Deletion in Text Simplification

Yang Zhong, Chao Jiang, Wei Xu, Junyi Jessy Li

AAAI 2020, long paper (acceptance rate 20.6%; oral presentation)

Multi-task Pairwise Neural Ranking for Hashtag Segmentation

Mounica Maddela, Wei Xu, Daniel Preotiuc-Pietro

ACL 2019, long paper (acceptance rate 25.7%)

A Word-Complexity Lexicon and A Neural Readability Ranking Model for Lexical Simplification

Mounica Maddela, Wei Xu

EMNLP 2018, long paper (acceptance rate 25.8%; oral presentation)

Neural Network Models for Paraphrase Identification, Semantic Textual Similarity, Natural Language Inference, and Question Answering

Wuwei Lan, Wei Xu

COLING 2018, long paper (**Best Paper Award**; selection rate 8/888 = 0.90%)

An Annotated Corpus for Machine Reading of Instructions in Wet Lab Protocols

Chaitanya Kulkarni, Wei Xu, Alan Ritter, Raghu Machiraju

NAACL 2018, short paper (acceptance rate 29%)

Character-based Neural Networks for Sentence Pair Modeling

Wuwei Lan, Wei Xu

NAACL 2018, short paper (acceptance rate 29%)

A Continuously Growing Dataset of Sentential Paraphrases

<u>Wuwei Lan</u>, Siyu Qiu, Hua He, Wei Xu

EMNLP 2017, long paper (acceptance rate 25.8%)

From Shakespeare to Twitter: What are Language Styles all about?

Wei Xu

EMNLP 2017 Workshop on Stylistic Variation

A Minimally Supervised Method for Recognizing and Normalizing Time Expressions in Twitter

Jeniya Tabassum, Alan Ritter, Wei Xu

EMNLP 2016, long paper (acceptance rate 26%; oral presentation)

Optimizing Statistical Machine Translation for Simplification

Wei Xu, Courtney Napoles, Ellie Pavlick, Quanze Chen, Chris Callison-Burch

TACL 2016, long paper (oral presentation at ACL 2016)

Discovering User Attribute Stylistic Differences via Paraphrasing

Daniel Preotiuc-Pietro, Wei Xu, Lyle Ungar

AAAI 2016, long paper (acceptance rate 26%; oral presentation)

Results of the WNUT16 Named Entity Recognition Shared Task

Benjamin Strauss, Bethany Toma, Alan Ritter, Marie-Catherine de Marneffe, Wei Xu

COLING 2016 Workshop on Noisy User-generated Text (shared-task overview)

Problems in Current Text Simplification Research: New Data Can Help

Wei Xu, Chris Callison-Burch, Courtney Napoles

TACL 2015, long paper (oral presentation at EMNLP 2015)

Cost Optimization for Crowdsourcing Translation

Mingkun Gao, Wei Xu, Chris Callison-Burch

NAACL 2015, long paper (acceptance rate 29%)

SemEval-2015 Task 1: Paraphrase and Semantic Similarity in Twitter

Wei Xu, Chris Callison-Burch, William B. Dolan

SemEval 2015, long paper (shared-task overview)

 $Shared\ Tasks\ of\ the\ 2015\ Workshop\ on\ Noisy\ User-generated\ Text:\ Twitter\ Lexical\ Normalization\ and\ Named\ Entity\ Recognition$

Timothy Baldwin, Marie Catherine de Marneffe, Bo Han, Young-Bum Kim, Alan Ritter, Wei Xu

ACL 2015 Workshop on Noisy User-generated Text (shared-task overview; author ordered alphabetically)

Data-driven Approaches for Paraphrasing Across Language Variations

Wei Xu

Ph.D. Thesis

Extracting Lexically Divergent Paraphrases from Twitter

Wei Xu, Alan Ritter, Chris Callison-Burch, William B. Dolan, Yangfeng Ji

TACL 2014, long paper (oral presentation at NAACL 2015)

Infusion of Labeled Data into Distant Supervision for Relation Extraction

Maria Pershina, Bonan Min, Wei Xu, Ralph Grishman

ACL 2014, short paper (acceptance rate 25.2%; oral presentation)

Filling Knowledge Base Gaps for Distant Supervision of Relation Extraction

Wei Xu, Raphael Hoffmann, Le Zhao, Ralph Grishman

ACL 2013, short paper (acceptance rate 24%)

Gathering and Generating Paraphrases from Twitter with Application to Normalization

Wei Xu, Alan Ritter, Ralph Grishman

ACL 2013 Workshop on Building and Using Comparable Corpora

A Preliminary Study of Tweet Summarization using Information Extraction

Wei Xu, Ralph Grishman, Adam Meyers, Alan Ritter

NAACL 2013 Workshop on Language Analysis in Social Media

 $Paraphrasing\ for\ Style$

Wei Xu, Alan Ritter, Bill Dolan, Ralph Grishman, Colin Cherry

COLING 2012, long paper (acceptance rate 25%)

 $\label{thm:condition} \textit{Exploiting Syntactic and Distributional Information for Spelling Correction with Web-Scale N-grams Models}$

Wei Xu, Joel Tetreault, Martin Chodorow, Ralph Grishman, Le Zhao

EMNLP 2011, long paper (acceptance rate 23.7%)

New York University 2011 System for KBP (Knowledge Base Population) Slot Filing

Ang Sun, Ralph Grishman, Wei Xu, Bonan Min

TAC 2011 (best performance system in NIST KBP-2011 evaluation)

Passage Retrieval for Information Extraction using Distant Supervision

Wei Xu, Ralph Grishman, Le Zhao

IJCNLP 2011, long paper (acceptance rate 36%)

Who, What, When, Where, Why? Comparing Multiple Approaches to the Cross-Lingual 5W Task

Kristen Parton, Kathleen McKeown, Bob Coyne, Mona Diab, Ralph Grishman, Dilek Hakkani-Tür, Mary

Harper, Heng Ji, Weiyun Ma, Adam Meyers, Sara Stolbach, Ang Sun, Gokhan Tur, Wei Xu, Sibel Yaman ACL 2009, long paper (acceptance rate 21%; oral presentation)

A Parse-and-Trim Approach with Information Significance for Chinese Sentence Compression Wei Xu, Ralph Grishman

ACL Workshop on Language Generation and Summarisation 2009

 $Transducing\ Logical\ Relations\ from\ Automatic\ and\ Manual\ Annotation$

Adam Meyers, Michiko Kosaka, Heng Ji, Nianwen Xue, Mary Harper, Ang Sun, Wei Xu, Shasha Liao ACL Workshop on Linguistic Annotation 2009

Automatic Recognition of Logical Relations for English, Chinese and Japanese in the GLARF Framework Adam Meyers, Michiko Kosaka, Nianwen Xue, Heng Ji, Ang Sun, Shasha Liao, Wei Xu SemEval 2009, long paper

Extractive Summarization using Inter- and Intra- Event Relevance

Wenjie Li, Wei Xu, Mingli Wu, Chunfa Yuan, Qin Lu

ACL 2006, long paper (acceptance rate 23%; oral presentation)

Using Non-Local Features to Improve Named Entity Recognition Recall

Xinnian Mao, Wei Xu, Yuan Dong, Haila Wang

PACLIC 2007, long paper

Deriving Event Relevance from the Ontology Constructed with Formal Concept Analysis

Wei Xu, Wenjie Li, Mingli Wu, Wei Li, Chunfa Yuan

CICLing 2006, long paper (acceptance rate 30.4%; oral presentation)

Building Document Graph for Text Summarization: An Event-based Approach

Wei Xu, Wenjie Li, Mingli Wu, Wei Li, Chunfa Yuan

ICCPOL 2006

The THU/PolyU System at MSE 2006: An Event-relevance based Approach

Wei Xu, Chunfa Yuan, Mingling Wu, Wenjie Li

Solomon Wood (high school intern at OSU)

MSE 2006

GRANTS

NSF Grant Collaborative Research: Automatic Text-Simplification and Reading-Assistance to Support Self-Directed Learning by Deaf and Hard-of-Hearing Computing Workers 2018 – 2022 PI (100%), total \$375,732

IARPA Research Grant Better Extraction from Text Towards Enhanced Retrieval 2019 – 2023 co-PI (50%), total \$850,000 (prime: Brown University)

NSF CRII RI: Learning a Timely Semantic Resource from Social Media Data
PI (100%), total \$183,000

DARPA Research Grant Computational Simulation of Online Social Behavior 2017 – 2021 co-PI (50%), total \$600,000 (prime: Leidos)

STUDENTS

Mounica Maddela (PhD student at GaTech)	2017 – present
Chao Jiang (PhD student at GaTech)	2018 – present
Yao Dou (PhD student at GaTech)	2021 – present
Wuwei Lan (PhD student at OSU)	2016 – present
Jonathan Zheng (undergraduate at GaTech)	Autumn 2020 – present
David Heineman (undergraduate at GaTech)	Winter 2020 – present
Ema Goh (undergraduate at GaTech)	Winter 2020 – present
Michael Ryan (undergraduate at GaTech)	Winter 2020 – present
Srushti Nandu (research intern at GaTech)	Summer 2021 – present
Jeniya Tabassum (completed PhD student at OSU - co-advisor: Alan Ritter)	2016 - 2020
Yang Zhong (completed Masters student at OSU)	2019-2021
Pravar Mahajan (completed Masters student at OSU, now at Google)	2016-2017
Piyush Ghai (completed Masters student at OSU, now at Amazon)	Autumn 2017
Sydney Lee (completed undergraduate at OSU, now at Capital One)	2018 - 2020
Sarah Flanagan (completed undergraduate at OSU)	2018 - 2020
Sam Stevens (completed undergraduate at OSU)	2019 - 2020
Daniel Szoke (undergraduate at OSU)	2019 - 2020
Brian Seeds (undergraduate at OSU)	Summer 2020
Kenneth Koepcke (undergraduate at UIUC)	2020 - 2021
Panya Bhinder (high school intern at OSU)	Summer 2020

Spring 2020

THESIS COMMITTEE	Yuval Pinter (PhD student at GaTech – advisor: Jacob Eisenstein) Sanqiang Zhao (completed PhD student at UPitt – advisor: Daqing He) Kai Cao (completed PhD student at NYU – advisor: Ralph Grishman) Maria Pershina (completed PhD student at NYU – advisor: Ralph Grishman)	2021 2021 2017 2014
TEACHING	CS 7650 Natural Language Processing Georgia Tech, graduate level	
	CS 4650 Natural Language Processing Georgia Tech, undergraduate level	
	CSE 5539 Social Media and Text Analytics (http://socialmedia-class.org/) A new course integrated with research, covering from basic to state-of-the-art machine learni (teaching evaluation: 4.13/5.00 Autumn 2019, 4.40/5.00 Autumn 2017, 4.60/5.00 Autumn 2 at NASSLLI 2015)	
	CSE 5522 Artificial Intelligence II: Advanced Techniques mixed undergraduate and graduate level (teaching evaluation: Spring 2020, 4.85/5.00 Autumn 2018, 4.50/5.00 Spring 2018)	
	CSE 5525 Speech and Language Processing mixed undergraduate and graduate level (teaching evaluation $3.80/5.00$ Spring 2017)	
Invited	Importance of Data and Controllability in Neural Language Generation	
TALKS	Stanford University (NLP Seminar) University of California, Los Angeles (Big Data and ML Seminar)	Aug 2021 Jun 2021
		9 dii 2021
	Importance of Data and Linguistics in Neural Language Generation New York University, New York, NY (NLP and Text-as-Data Speaker Series)	May 2021
	Carnegie Mellon University, Pittsburgh, PA (LTI Colloquium)	Nov 2020
	Natural Language Understanding for Noisy Text	
	University of Sheffield, Sheffield, United Kingdom (NLP Seminar)	Oct 2020
	USC Information Sciences Institute, Los Angeles, CA (NLP Seminar)	Oct 2020
	Automatic Text Simplification	_
	University of Pittsburgh, Pittsburgh, PA (NLP Seminar)	Oct 2020
	Understanding and Generating Human Language	G 9090
	Emory University, Atlanta, GA (CS Department Seminar) University of Maryland, College Park, MD (CS Colloquium)	Sep 2020 Feb 2020
	University of Massachusetts, Amherst, MA	Jan 2020
	Georgia Institute of Technology, Atlanta, GA	Dec 2019
	Learning for Unlimited Human Language	
	Peking University, Beijing, China	$\mathrm{Dec}\ 2018$
	Learning Large-scale Paraphrases for Natural Language Understanding and Generation	
	Midwest Machine Learning Symposium, Chicago, IL	Jun 2018
	Facebook, Menlo Park, CA	May 2018
	Stanford Research Institute, Menlo Park, CA Twitter, San Francisco, CA	May 2018 May 2018
	IBM Thomas J. Watson Research Center, New York, NY	Nov 2017
	How does AI Understand Language?	
	Women in Analytics Conference, Columbus, OH (Main Stage Panel)	Mar 2018
	Can Paraphrase be a Ultimate Solution for NLU and NLG?	I 1 0015
	Google Research, New York, NY	Jul 2017
	$\mathbf{Paraphrase} \approx \mathbf{Monolingual\ Translation}$ Amazon, Berlin, Germany	Aug 2016
	Multiple Instance Learning from Unlimited Text	
	Microsoft Research Asia, Beijing, China	Dec 2016
	University of Delaware, Newark, DE	Sep 2016
	University of Edinburgh, Edinburgh, United Kingdom	May 2016
	Ohio State University, Columbus, OH University of North Carolina, Chapel Hill, NC	Apr 2016 Apr 2016
	Arizona State University, Tempe, AZ	Mar 2016
	Vanderbilt University, Nashville, TN	Mar 2016
	Imperial College London, London, United Kingdom	${\rm Mar}~2016$

	University of Waterloo, Waterloo, ON, Canada (CS Seminar) Indiana University, Bloomington, IN (Computer Science Colloquium Series) Washington University, St Louis, MI (Computer Science & Engineering Colloquia Series) Simon Fraser University, Vancouver, BC, Canada University of Alberta, Edmonton, AB, Canada Yale University, New Haven, CT (CS Talk) University of Maryland, College Park, MD (CLIP Colloquium) Ohio State University, Columbus, OH (Clippers Seminar)	Mar 2016 Feb 2016 Feb 2016 Feb 2016 Feb 2016 Oct 2015 Oct 2015
	Large-scale Paraphrase Acquisition from Twitter	May 2015
	Learning and Generating Paraphrases from Twitter and Beyond Carnegie Mellon University, Pittsburgh, PA Columbia University, New York, NY (NLP Talk) Johns Hopkins University, Baltimore, MD (CLSP Colloquium)	Apr 2015 Apr 2015 Feb 2015
	Paraphrases in Twitter Twitter, San Francisco, CA	Feb 2015
	Modeling Lexically Divergent Paraphrases in Twitter (and Shakespeare!) The City University of New York, New York, NY (NLP Seminar) IBM Research - Almaden, San Jose, CA University of California, Berkeley, CA The University of Texas, Austin, TX (Forum for Artificial Intelligence) Yahoo!, New York, NY Carnegie Mellon University, Pittsburgh, PA (CL+NLP Lunch Seminar) Microsoft Research, Seattle, WA (Visiting Speaker Series)	Mar 2015 Feb 2015 Feb 2015 Feb 2015 Dec 2014 Nov 2014 Aug 2014
	Incremental Information Extraction Stanford Research Institute, Palo Alto, CA IARPA's KDD Project Meeting, San Diego, CA	Apr 2012 May 2011
	Information Extraction Research University of Washington, Seattle, WA	Jan 2011
	Event-based Summarization Thomson Reuters, Eagan, Minnesota, MN	Nov 2009
Outreach Activities		July 2020 Mar 2019 Mar 2019 Apr 2018 Jun 2018 Apr 2018 Mar 2018 Feb 2018 Oct 2017 Jul 2017 Mar 2017 Apr 2015
OPEN SOURCE CODE / DATA	#HashtagMaster: A Semantic Analysis Tool for Hashtags https://mounicam.github.io/hashtag_master Pairwise Neural Ranking Model and SimplePPDB++	Jun 2019 Oct 2018
	https://github.com/lanwuwei/SPM_toolkit SPM Toolkit for Sentence Pair Modeling https://github.com/lanwuwei/SPM_toolkit	Aug 2018
	LanguageNet: Large-scale Paraphrase Corpus https://github.com/lanwuwei/paraphrase-dataset	Sep 2017 May 2015 Toolkit) Sep 2015 Dec 2014
	Twitter Paraphrase Corpus (shared-task at SemEval-2015)	Oct 2014

http://alt.qcri.org/semeval2015/task1/	
Event-based Twitter Summarization System	Nov 2013
https://github.com/cocoxu/twittersummarization/	
Twitter Normalization Phrase Table	Oct 2014
https://github.com/cocoxu/twitterparaphrase/	
Parallel Shakespeare Corpus and Model	Jul 2012
https://github.com/cocoxu/Shakespeare/	