

# Steven R. Wilson

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## EDUCATION

**University of Michigan**, Ann Arbor, Michigan

Ph.D., Computer Science & Engineering

Jan 2019

- Thesis Title: Natural Language Processing for Personal Values and Human Activities
- Advisor: Rada Mihalcea

M.S., Computer Science & Engineering

Apr 2015

**Taylor University**, Upland, Indiana

B.S., Computer Science/Systems

May 2013

- Summa cum laude
- Minor in psychology
- Concentration in Intelligent Systems

## RESEARCH EXPERIENCE

**Institute for Language, Cognition, and Computation**, University of Edinburgh

Postdoctoral Research Associate, SMASH Lab

Sep 2019 – Present

- Supervisor: Walid Magdy
- Research areas: Natural language processing, Computational Social Science

**Artificial Intelligence Lab**, University of Michigan

Postdoctoral Research Fellow, LIT Lab

Feb 2019 – Jul 2019

- Supervisor: Rada Mihalcea
- Research areas: Natural language processing, Computational Social Science

Graduate Student Research Assistant, LIT Lab

Jan 2014 – Jan 2019

- Supervisor: Rada Mihalcea
- Research areas: Natural language processing, Computational Social Science

**Automated Imagery Analysis Group**, SPAWAR Systems Center Pacific

Research Intern

Jun 2013 – Aug 2013

- Project: Automated detection of oil spills from Synthetic Aperture Radar imagery
- Supervisor: Bryan Bagnall
- Research areas: Computer Vision, Machine Learning

**Advanced Concepts Lab**, Lockheed-Martin Advanced Technology Labs

College Student Technical Specialist

Jun 2012 – Aug 2012

- Project: Proprietary research
- Supervisor: Ricardo Correa
- Research areas: Cybersecurity, Mobile Devices, Malware

**Taylor University Research**, Taylor University

Research Intern, Department of Computer Science & Engineering

May 2011 – Jan 2012

- Project: Proprietary research for Lockheed Martin
- Supervisors: Stefan Brandle, Arthur White
- Research areas: Cybersecurity, Operating Systems

## PUBLICATIONS

### PEER-REVIEWED

- 1) Wilson, S. R., Magdy, W., McGillivray, B., Garimella, K., & Tyson, G. Urban Dictionary Embeddings for Slang NLP Applications. *In Proceedings of the Language Resources and Evaluation Conference*. Marseille, France, May 2020.
- 2) Rechkemmer, A., Wilson, S. R., & Mihalcea, R. Small Town or Metropolis? Analyzing the Relationship between Population Size and Language. *In Proceedings of the Language Resources and Evaluation Conference*. Marseille, France, May 2020.
- 3) Shen, Y.,\* Wilson, S. R.,\* & Mihalcea, R. Measuring Personal Values in Cross-Cultural User-Generated Content. *In Proceedings of the International Conference on Social Informatics*. Doha, Qatar, Nov 2019.
- 4) Wilson, S. R., & Mihalcea, R. Predicting Human Activities from User-Generated Content. *In Proceedings of the Annual Meeting of the Association of Computational Linguistics*. Florence, Italy, Jul 2019.

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\* Equal Contributions

- 5) Zhang, L., Wilson, S. R., & Mihalcea, R. Multi-Label Transfer Learning for Multi-Relational Semantic Similarity. *In Proceedings of the Eighth Joint Conference on Lexical and Computational Semantics*. Minneapolis, USA, Jun 2019.
- 6) Wilson, S. R., Shen, Y., & Mihalcea, R. Building and Validating Hierarchical Lexicons with a Case Study on Personal Values.<sup>†</sup> *In Proceedings of the International Conference on Social Informatics*. St. Petersburg, Russia, Sep 2018.
- 7) Li, Y., Mihalcea, R., and Wilson, S. R.. Text-based Detection and Understanding of Changes in Mental Health. *In Proceedings of the International Conference on Social Informatics*. St. Petersburg, Russia, Sep 2018.
- 8) Wilson, S. R., & Mihalcea, R. Measuring Semantic Relations between Human Activities. *In Proceedings of the International Joint Conference on Natural Language Processing*. Taipei, Taiwan, Nov 2017.
- 9) Wilson, S. R., Mihalcea, R., Boyd, R.L., & Pennebaker, J. W. Disentangling Topic Models: A Cross-cultural Analysis of Personal Values through Words. *In the Workshop on Natural Language Processing and Computational Social Science at EMNLP*. Austin, TX, Nov 2016.
- 10) Ruan, X., Wilson, S. R., & Mihalcea, R. Finding Optimistic and Pessimistic Users on Twitter. *In Proceedings of the Annual Meeting of the Association of Computational Linguistics*. Berlin, Germany, Aug 2016.
- 11) Wilson, S. R., Mihalcea, R., Boyd, R.L., & Pennebaker, J. W. Cultural Influences on the Measurement of Personal Values through Words. *In Proceedings of the 2016 AAAI Spring Symposium Series*. Stanford, CA, Mar 2016.
- 12) Boyd, R. L.,\* Wilson, S. R.,\* Pennebaker, J. W., Kosinski, M., Stillwell, D., & Mihalcea, R. Values in Words: Using Language to Evaluate and Understand Personal Values. *In Proceedings of the Ninth AAAI International Conference on Web and Social Media*, Oxford, UK, May 2015.

#### E-PRINT/OTHER

- 1) Wendlandt, L., Wilson, S. R., Ignat, O., Welch, C., Zhang, L., Wang, M., Deng, J., and Mihalcea, R. Entity and Event Extraction from Scratch Using Minimal Training Data. *Text Analysis Conference*. Nov 2018.
- 2) Zhang, L., Wilson, S. R., and Mihalcea, R. Sequential Network Transfer: Adapting Sentence Embeddings to Human Activities and Beyond. *arXiv:1804.07835 [cs.CL]*. Apr 2018.
- 3) Pappas, K., Wilson, S. R., and Mihalcea, R. Stateology: State-Level Interactive Charting of Language, Feelings, and Values. *arXiv:1612.06685 [cs.CL]*. Dec 2016.
- 4) Radev, D., Zhang, R., Wilson, S. R., Van Assche, D., Gubert, H. S., Krivokapic, A., Dong, M., Wu, C., Bondera, S., Brandl, L., and Dohnmann, J. Cruficorn: Solving Crosswords with Natural Language Processing. *arXiv:1611.02360 [cs.CL]*. Nov 2016.

#### ACADEMIC HONORS & AWARDS

Michigan Artificial Intelligence Lab Symposium	2018
“Greatest Societal Impact”	
Awarded for poster presentation: “Clustering Human Activity Expressions”	
Best Paper Award	2018
International Conference on Social Informatics	
Awarded for the paper: “Building and Validating Hierarchical Lexicons with a Case Study on Personal Values”	
Rackham Graduate School Conference Travel Grant	2015 – 2018
University of Michigan, Ann Arbor, MI	
Provides monetary allowance for academic conference travel. Awarded Yearly.	

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<sup>†</sup> Best Paper Award

\* Equal Contributions

Michigan Institute for Data Science Annual Symposium “Most Likely Societal Impact” Awarded for poster presentation: “Disentangling Topic Models: A Cross-cultural Analysis of Personal Values through Words”	2016
Outstanding Computer Science Graduate Taylor University, Upland, IN Awarded to one student each year, selected by the faculty of Computer Science & Engineering.	2013
President Scholarship, Taylor University, Upland, IN Highest tier of merit based academic scholarship awarded by the university.	2009 – 2013
AP Scholar with Distinction The College Board For receiving an average score of at least 3.5 on all Advanced Placement exams taken, and scores of 3 or higher on five or more of these exams.	2009

## PROFESSIONAL ACTIVITIES

### SERVICE

Organizer University of Michigan Natural Language Processing Reading Group	Sep 2015 – Jul 2019
Program Committee Member LR4Responsible-AI @ LREC 2020, GeBNLP 2020 @ COLING 2020, LREC 2020, AAAI 2020, CoNLL 2019, IJCNLP-EMNLP 2019, SocialNLP @ IJCAI 2019, ACL 2019, NLP+CSS @ NAACL 2019, NAACL 2019, AAAI 2019, EMNLP 2018, LREC 2018, EMNLP 2017, NLP+CSS @ ACL 2017, COLING 2016, WWW 2016, EMNLP 2015	
Invited Reviewer Applied Sciences 2019, Computer Speech and Language 2017, Psychological Methods 2017, JASIST 2017	
Volunteering Instructor at CS Kickstart 2017, Student Volunteer at EMNLP 2016, Session Facilitator at Girls Encoded 2016, Volunteer at Girls Encoded 2015, Session Facilitator at Xplore Engineering 2014 & 2015	
Secondary Reviewer Journal of Artificial Intelligence Research 2016	

### MEMBERSHIPS

The Association for Computational Linguistics	2015 – Present
The Association for the Advancement of Artificial Intelligence	2015 – 2018

### CONFERENCES/WORKSHOPS ATTENDED

2nd HUMAINT Winter School on Fairness, Accountability, and Transparency in AI	2020
International Conference on Social Informatics	2019
EurNLP Summit	2019
Annual Meeting of the Association for Computational Linguistics	2019
Joint Conference on Lexical and Computational Semantics	2019
Annual Conference of the North American Chapter of the ACL • Workshop on Natural Language Processing and Computational Social Science	2019
Midwest Speech and Language Days	2019
International Conference on Social Informatics	2018
International Conference on Computational Social Science	2018
Midwest Speech and Language Days	2018
International Joint Conference in Natural Language Processing	2017
Midwest Speech and Language Days	2017

	Conference on Empirical Methods in Natural Language Processing	2016
	• Workshop on Natural Language Processing and Computational Social Science	
	• Workshop on Natural Language Processing for Social Media	
	International Conference on Computational Social Science	2016
	Midwest Speech and Language Days	2016
	AAAI Spring Symposium Series	2016
	• Observational Studies in Social Media and Other Human Generated Content	
	AAAI International Conference on Web and Social Media	2015
	• Workshop on Standards and Practices in Large-Scale Social Media Research	
	Midwest Speech and Language Days	2015
	AAAI International Conference on Web and Social Media	2014
<b>TEACHING ACTIVITIES</b>	<b>School of Informatics, University of Edinburgh</b>	
	Guest Lecturer	Nov 2019
	INFR11145: Text Technologies for Data Science, <i>Lecture title: “Comparing Text Corpora”</i>	
	<b>Data Science Summer School, École Polytechnique and DATAIA Institute</b>	
	Tutorial Organizer	Jun 2019
	Fundamentals of Text Analysis for User Generated Content	
	<b>Department of Electrical Engineering and Computer Science, University of Michigan</b>	
	Guest Lecturer	Winters, 2017 – 2019
	EECS 486: Information Retrieval, <i>Lecture title: “Topic Modeling”</i>	
	Graduate Student Instructor	Fall 2017
	EECS 595: Natural Language Processing	
	Graduate Student Instructor	Fall 2013
	EECS 280: Programming and Introductory Data Structures	
	<b>The Center for Research in Teaching and Learning, University of Michigan</b>	
	Practice Teaching Facilitator	Winter 2016 – Fall 2017
	Engineering Teaching Consultant	Fall 2015 – Winter 2017
	Graduate Student Instructor Training - Workshop Facilitator	Fall 2015 – Winter 2017
<b>STUDENT ADVISING</b>	<b>Department of Computer Science &amp; Engineering, Taylor University</b>	
	Laboratory Assistant	Spring 2012
	COS 121: Foundations of Computer Science II	
	<b>Yiting Shen, B.S.E. '18, M.S. '19, University of Michigan</b>	May 2017 – May 2019
	Evaluation and Weighting of a Values Lexicon	
	<b>Amy Rechkemmer, B.S.E. '18, University of Michigan</b>	Dec 2017 – May 2019
	Content Analysis of Urban and Rural Twitter Users	
	<b>Li Zhang, B.S.E. '18, University of Michigan</b>	Sep 2017 – Dec 2018
	Language Understanding and Semantic Similarity of Text	
	<b>Anamaria Cuza, B.S.E. '21, University of Michigan</b>	Dec 2017 – Dec 2018
<b>NON-ARCHIVAL PRESENTATIONS</b>	Exploration of Bias in NLP Data Annotation	
	<b>Zheng Wu, M.S. '17, University of Michigan</b>	Jan 2016 – May 2017
	Comparison of Topic Modeling Methods	
	<b>Renhan Zhang, M.S. '16, University of Michigan</b>	Jun 2015 – Jan 2016
	A System for the Collection of Psycholinguistic Social Media Data	
	<b>Xianzhi Ruan, B.S.E. '16, University of Michigan</b>	May 2015 – Jan 2016
	Finding and Predicting Optimistic and Pessimistic Users on Twitter	
	<b>TALKS</b>	
	<b>Social Data Science Interest Group</b>	Oct 2019
	The Alan Turing Institute, London, UK	
	“The Semantic Space of Human Activities”	

<b>Information Retrieval Seminar</b> University of Glasgow, Glasgow, UK “The Semantic Space of Human Activities”	Oct 2019
<b>#UMTweetCon2019</b> Institute for Social Research , University of Michigan, Ann Arbor, MI “Predicting Human Activities from User-Generated Content”	May 2019
<b>Artificial Intelligence Lab Honors Competition</b> University of Michigan, Ann Arbor, MI “Measuring Semantic Relations between Human Activities”	Oct 2017
<b>International Conference on Computational Social Science</b> Northwestern University, Evanston, IL “Cultural Influences on the Measurement of Psychological Phenomena: Value-behavior Relationships in India and the United States”	Jun 2016
<b>Midwest Speech and Language Days</b> University of Indiana, Bloomington “Cultural Influences on the Measurement of Personal Values through Words”	May 2016
<b>Artificial Intelligence Lab Mini-Symposium</b> University of Michigan, Ann Arbor, MI “Values in Words: Using Language to Evaluate and Understand Personal Values”	May 2015
<b>Midwest Speech and Language Days</b> Toyota Institute of Technology, Chicago, IL “Values in Words: Using Language to Evaluate and Understand Personal Values”	May 2015
<b>Michigan College of Engineering “Recruit at Home” Event</b> College of Natural & Applied Science, Taylor University, Upland, IN “Navigating Graduate School” Sponsored by the University of Michigan College of Engineering	Oct 2014
<b>POSTERS</b>	
<b>Midwest Speech and Language Days</b> Toyota Institute of Technology, Chicago, IL “Clustering and Predicting Human Activities”	May 2019
<b>University of Michigan Artificial Intelligence Lab Symposium</b> University of Michigan, Ann Arbor, MI “Clustering Human Activity Expressions”	Nov 2018
<b>International Conference on Computational Social Science</b> Northwestern University, Evanston, IL “Relating Human Activities with Phrasal Embeddings”	Jul 2018
<b>International Conference on Computational Social Science</b> Northwestern University, Evanston, IL “Crowd-Powered Concept Sorting for Lexicon Creation”	Jul 2018
<b>Midwest Speech and Language Days</b> Toyota Institute of Technology, Chicago, IL “Measuring Semantic Relations between Human Activities”	May 2017
<b>University of Michigan Data Science Symposium</b> University of Michigan, Ann Arbor, MI “Disentangling Topic Models: A Cross-cultural Analysis of Personal Values through Words”	Nov 2016
<b>Society for Personality and Social Psychology</b> Long Beach, CA “Language and values: Understanding human values with language and language categories.”	Feb 2015

**SYSTEMS**      **Language and Information Technology research group**, University of Michigan  
**ADMINISTRATION**   Systems Administrator for Lab Network      Jun 2014 – Nov 2018  
Software Skills: *Ubuntu, NIS, Apache, MySQL*

[CV Compiled on 2020-02-11]