

EMILY SHENG

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Los Angeles, CA

EDUCATION

PH.D. IN COMPUTER SCIENCE

Aug 2015 – Aug 2021

University of Southern California

Advisors: Dr. Prem Natarajan and Dr. Nanyun Peng

Research interests: fairness in natural language processing, language generation, dialogue systems

M.S. IN COMPUTER SCIENCE

Aug 2015 – May 2017

University of Southern California

B.A. IN COMPUTER SCIENCE, COGNITIVE SCIENCE

Aug 2010 – May 2014

University of California, Berkeley

PROFESSIONAL EXPERIENCE

MACHINE LEARNING ENGINEER

July 2021 –

Twitter

Los Angeles, CA

Improve content health & fairness of the platform.

RESEARCH INTERN

May 2019 – April 2020

Google

Mountain View, CA

Evaluate and mitigate biases towards different demographics in a poetry composition system.

SOFTWARE ENGINEERING INTERN

May 2018 – Aug 2018

Google

Mountain View, CA

Evaluate textual similarity across text lengths for bag-of-words and convolutional neural network model variants.

SOFTWARE ENGINEER

July 2014 – July 2015

Expect Labs

San Francisco, CA

Prototype classifier for domain-specific named entity recognition to improve a natural language understanding system, and full-stack development of developer platform tools.

SOFTWARE ENGINEERING INTERN

May 2013 – Aug 2013

Samsung Telecommunications America

San Jose, CA

Build back end of an analytics prototype project.

PUBLICATIONS

Sheng, E. (Aug 2021). Fairness in Natural Language Generation. *PhD Thesis*.

Sheng, E., Chang, K.-W., Natarajan, P., Peng, N. (2021). Societal Biases in Language Generation: Progress and Challenges. In *Proceedings of ACL 2021*.

Sheng, E., Chang, K.-W., Natarajan, P., Peng, N. (2021). “Nice Try, Kiddo”: Investigating Ad Hominems in Dialogue Responses. In *Proceedings of NAACL 2021*.

Sheng, E., Arnold, J., Yu, Z., Chang, K.-W., Natarajan, P., & Peng, N. (2021). Revealing Persona Biases in Dialogue Systems. *arXiv preprint arXiv:2104.08728*.

Dev, S., Sheng, E., Zhao, J., Sun, J., Hou, Y., Sanseverino, M., Kim, J., Peng, N., Chang, K.-W. (2021). What do Bias Measures Measure? *arXiv preprint arXiv:2108.03362*.

Sheng, E., Chang, K.-W., Natarajan, P., Peng, N. (2020). Towards Controllable Biases in Language Generation. In *Proceedings of EMNLP-Findings 2020*.

Sheng, E., & Uthus, D. (2020). Investigating Societal Biases in a Poetry Composition System. In *Proceedings of the 2nd Gender Bias in NLP Workshop*.

Sheng, E., Chang, K.-W., Natarajan, P., Peng, N. (2019). The Woman Worked as a Babysitter: On Biases in Language Generation. In *Proceedings of EMNLP 2019*.

Sheng, E., Natarajan, P., Gordon, J., & Burns, G. (2017). An Investigation into the Pedagogical Features of Documents. In *Proceedings of the 12th Workshop on Innovative Use of NLP for Building Educational Applications* (pp. 109-120).

Gordon, J., Aguilar, S., Sheng, E., & Burns, G. (2017). Structured generation of technical reading lists. In *Proceedings of the 12th Workshop on Innovative Use of NLP for Building Educational Applications* (pp. 261-270).

RESEARCH EXPERIENCE

USC / ISI: Natural Language Processing Aug 2015 – Aug 2021
Graduate Research Assistant at University of Southern California / Information Sciences Institute
Recent work on evaluating and mitigating biases in language generation, prior work on information extraction.

UC Berkeley / ICSI: Resolving prepositional phrase attachment ambiguity Jan 2014 – May 2014
Research project at University of California, Berkeley / International Computer Science Institute
Survey of lexical, semantic, and contextual methods to resolve ambiguity (adv. Dr. Jerome Feldman).

UC Berkeley / Walker Lab: Sleep study June 2012 – May 2013
Research Assistant at University of California, Berkeley
EEG, MRI, and behavioral tests to study effect of sleep on adolescents.

UC Berkeley / Concepts and Cognition Lab: Yahoo Answers study Aug 2011 – May 2013
Research Assistant at University of California, Berkeley
Extract features of up-voted Yahoo Answers to find those favored in "good" explanations.

PROFESSIONAL ACTIVITY

PUBLICITY CO-CHAIR July 2021 –
NAACL 2022

SEMINAR COORDINATOR Sept 2019 – Aug 2020
USC Information Sciences Institute Natural Language Seminar Marina del Rey, CA

STUDENT CO-CHAIR Sept 2019
2019 SoCal NLP Symposium Los Angeles, CA

REVIEWER
*ACL: 2020, 2021; EMNLP: 2020 (Outstanding Reviewer), 2021; NAACL 2021; AAAI 2022, *SEM 2019; SoCal NLP Symposium 2019; TrustNLP workshop 2021; RAI@KDD 2021*

TEACHING EXPERIENCE

TEACHING ASSISTANT Aug 2015 – May 2016
Introduction to Computing course University of Southern California