

# Weiyan Shi

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CONTACT	<a href="mailto:ws2634@columbia.edu">ws2634@columbia.edu</a> <a href="https://github.com/wyshi">wyshi.github.io</a> <a href="#">Google Scholar</a>	
RESEARCH INTERESTS	Natural Language Processing (dialogue systems, privacy-preserving NLP models, etc), Machine Learning, Artificial Intelligence	
EDUCATION	<b>Columbia University</b> Ph.D. in Computer Science Advisor: <a href="#">Zhou Yu</a>	2020 - 2023 (anticipated)
	<b>University of California, Davis</b> Ph.D. in Computer Science (transferred with my advisor) Advisor: <a href="#">Zhou Yu</a>	2018 - 2020
	<b>University of California, Berkeley</b> M.A. in Statistics	2015 - 2016
	<b>Renmin University of China</b> B.S. in Mathematics and Applied Mathematics	2011 - 2015
AWARDS & HONORS	Rising Stars in Machine Learning, UMD <b>Best Paper Nomination, ACL</b> Dean's Distinguished Ph.D. Fellowship, UC Davis Department Citation (top 1), UC Berkeley Speaker at Department Commencement (top 1), UC Berkeley National Scholarship, RUC Presidential Fellowship for Studying Abroad, RUC	2022 2019 2018-2023 2016 2016 2014 2013
GRANTS	<b>Cisco Research Grant</b> <i>Co-writer and primary student representative for Zhou Yu's group</i> "Selective Differential Privacy in Language Modeling" – \$40K PI: Zhou Yu, Ruoxi Jia  <b>NSF SaTC Grant</b> <i>Co-writer and primary student representative for Zhou Yu's group</i> "Accurate and Scalable Privacy-Preserving Approaches for Natural Language Generation" – under revision PI: Zhou Yu, Ruoxi Jia	2022-2023
EMPLOYMENT HISTORY	<b>Research Intern</b> , Facebook AI Research <i>Hosts: Jason Weston and Jing Xu</i> <i>Project: Integrating user feedback into chatbots</i>	2022.05 - 2022.09
	<b>Research Intern</b> , Facebook AI Research	2021.05 - 2021.12

Host: Mike Lewis

Project: Zero-shot dialogue nonsense detection

**Research Intern**, Facebook AI Research

2020.06 - 2020.12

Host: Mike Lewis

Project: Strategic negotiation dialogue generation

**Full-time Data Scientist**, [24]7.ai

2016 - 2018

Customer service chatbot development

**PUBLICATIONS** *The listed conferences are top-tier in NLP, HCI and AI with acceptance rates between 20%-25%.*

**Just Fine-tune Twice: Selective Differential Privacy for Large Language Models**

Weiyan Shi, Ryan Shea, Si Chen, Chiyuan Zhang, Ruoxi Jia, Zhou Yu

Empirical Methods in Natural Language Processing (EMNLP), 2022

**Seamlessly Integrating Factual Information and Social Content with Persuasive Dialogue**

Maximillian Chen, Weiyan Shi, Feifan Yan, Ryan Hou, Jingwen Zhang, Saurav Sahay, Zhou Yu

Asia-Pacific Chapter of the Association for Computational Linguistics (ACL-IJCNLP), 2022

**Towards Socially Intelligent Agents with Mental State Transition and Human Utility**

Liang Qiu, Yizhou Zhao, Yuan Liang, Pan Lu, Weiyan Shi, Zhou Yu, Song-Chun Zhu

Annual Meeting of the Special Interest Group on Discourse and Dialogue (SIGDIAL), 2022

**Selective Differential Privacy for Language Modeling**

Weiyan Shi, Aiqi Cui, Evan Li, Ruoxi Jia, Zhou Yu

North American Chapter of the Association for Computational Linguistics (NAACL), 2022

**Refine and Imitate: Reducing Repetition and Inconsistency in Persuasion Dialogues via Reinforcement Learning and Human Demonstration**

Weiyan Shi, Yu Li, Saurav Sahay, Zhou Yu

Findings of Empirical Methods in Natural Language Processing (EMNLP), 2021

**LEGOEval: An Open-Source Toolkit for Dialogue System Evaluation via Crowdsourcing**

Yu Li, Josh Arnold, Feifan Yan, Weiyan Shi, Zhou Yu

Demo of Annual Meeting of the Association for Computational Linguistics (ACL), 2021

**PRAL: A tailored pre-training model for task-oriented dialogue generation**

Jing Gu, Qingyang Wu, Chongruo Wu, Weiyan Shi, Zhou Yu

Annual Meeting of the Association for Computational Linguistics (ACL), 2021

**INSPIRED: Toward Sociable Recommendation Dialogue Systems**

Shirley Anugrah Hayati, Dongyeop Kang, Qingxiaoyang Zhu, Weiyan Shi, Zhou Yu

Empirical Methods in Natural Language Processing (EMNLP), 2020

**Structured Attention for Unsupervised Dialogue Structure Induction**

Liang Qiu, Yizhou Zhao, Weiyan Shi, Yuan Liang, Feng Shi, Tao Yuan, Zhou Yu, Song-Chun Zhu  
Empirical Methods in Natural Language Processing (EMNLP), 2020

**Structured Attention for Unsupervised Dialogue Structure Induction**

Liang Qiu, Yizhou Zhao, Weiyan Shi, Yuan Liang, Feng Shi, Tao Yuan, Zhou Yu, Song-Chun Zhu  
Empirical Methods in Natural Language Processing (EMNLP), 2020

**Understanding User Resistance Strategies in Persuasive Conversations**

Youzhi Tian, Weiyan Shi, Chen Li, Zhou Yu  
Findings of Empirical Methods in Natural Language Processing (EMNLP), 2020

**Effects of Persuasive Dialogues: Testing Bot Identities and Inquiry Strategies**

Weiyan Shi, Xuewei Wang, Yoo Jung Oh, Jingwen Zhang, Saurav Sahay, Zhou Yu  
Conference on Human Factors in Computing Systems (CHI), 2020

**End-to-End Trainable Non-Collaborative Dialogue System**

Yu Li, Kun Qian, Weiyan Shi, Zhou Yu  
AAAI Conference on Artificial Intelligence (AAAI), 2020

**How to Build User Simulators to Train RL-based Dialogue Systems**

Weiyan Shi\*, Kun Qian\* (equal contribution), Xuewei Wang, Zhou Yu  
Empirical Methods in Natural Language Processing (EMNLP), 2019

**Persuasion for Good: Towards a Personalized Persuasive Dialogue System for Social Good (Best Paper Nomination)**

Xuewei Wang\*, Weiyan Shi\* (equal contribution), Richard Kim, Yoojung Oh, Sijia Yang, Jingwen Zhang, Zhou Yu  
Annual Meeting of the Association for Computational Linguistics (ACL), 2019

**Unsupervised Dialogue Structure Learning**

Weiyan Shi, Tiancheng Zhao, Zhou Yu  
North American Chapter of the Association for Computational Linguistics (NAACL), 2019

**Sentiment Adaptive End-to-End Dialogue Systems**

Weiyan Shi, Zhou Yu  
Annual Meeting of the Association for Computational Linguistics (ACL), 2018

UNDER  
SUBMISSION

**AutoReply: Detecting Nonsense in Dialogue Introspectively with Discriminative Replies**  
Weiyan Shi, Emily Dinan, Adi Renduchintala, Daniel Fried, Athul Paul Jacob, Zhou Yu, Mike Lewis  
under submission, 2022

**Social Influence Dialogue Systems: A Scoping Survey of the Efforts Towards Influence Capabilities of Dialogue Systems**

Kushal Chawla\*, Weiyan Shi\* (equal contribution), Jingwen Zhang, Gale Lucas, Zhou Yu, Jonathan Gratch  
under submission, 2022

**When Life Gives You Lemons, Make Cherryade: Converting Feedback from Bad Responses into Good Labels**

Weiyan Shi, Emily Dinan, Kurt Shuster, Jason Weston, Jing Xu  
under submission, 2022

**INVITED  
TALKS**

*Reducing Repetition and Contradiction in Dialogue Systems*, Columbia NLP Seminar, Spring 2021  
*Selective Differential Privacy in Language Modeling*, Columbia NLP Seminar, Fall 2021  
*Sentiment-adaptive Dialogue Systems*, Cresta, Spring 2019

**MENTORING**

**Max Chen** 2021-Present  
Ph.D. student Columbia University  
Project: [Persuasive dialogue systems](#)

**Yu Li** 2018-Present  
Ph.D. student Columbia University  
Project: [Anti-scam dialogue systems](#) and [dialogue evaluation](#)

**Payton Guo** 2022-Present  
Undergraduate student New York University  
Project: Dialogue data denoising

**Ryan Shea** 2022-Present  
Master student Columbia University  
Project: [Membership inference attack on NLP models](#)

**Evan Li** 2021  
Undergraduate student Columbia University  
Project: [Differential privacy and attack models in NLP](#)

**Chelsea Cui** 2021  
Master student (Master at Columbia → Now at Amazon) Columbia University  
Project: [Differential privacy and dialogue simulation](#)

**Shirley Anugrah Hayati** 2019-2020  
Master student (Master at CMU → Now Ph.D. at University of Minnesota) CMU  
Project: [Sociable recommendation dialogues](#)

**Jing Gu** 2019-2020  
Master student (Master at UC Davis → Now Ph.D. at UC, Santa Cruz) UC Davis  
Project: [Pre-training models for task-oriented dialogue systems](#)

**Xuewei Wang** 2019-2020  
Undergraduate student (Master at CMU → Now at Meta) Zhejiang University

Project: [Persuasive dialogues](#) and [dialogue user simulator](#)

TEACHING	<b>Co-instructor: COMS 6998, Conversational AI, Columbia</b> Fall 2022 <ul style="list-style-type: none"><li>· <i>Topics</i>: various topics on dialogue systems (task-oriented and open-domain dialogue systems, knowledge-enriched dialogue systems, dialogue systems under low-resource settings, dialogue evaluations, and multimodal dialogues, etc).</li><li>· Co-designed (with Prof. Zhou Yu) the curriculum; co-led the class discussion; co-supervised course projects; co-hosted guest speakers; held office hours and graded the assignments.</li></ul>
	<b>Guest Lecturer: COMS 4705, Natural Language Processing, Columbia</b> Spring 2022 <ul style="list-style-type: none"><li>· <i>Topic</i>: dialogue systems (spoken and text-based)</li><li>· Prepared and delivered a lecture to a 100-student upper-division undergraduate introduction course to NLP</li></ul>
	<b>Teaching Assistant: COMS 6998, Conversational AI, Columbia</b> Spring 2021 <ul style="list-style-type: none"><li>· <i>Topics</i>: various topics on dialogue systems</li><li>· Co-designed (with Prof. Zhou Yu) the curriculum; co-supervised course projects; held office hours and graded the assignments.</li></ul>
SERVICE	<b>Area Chair:</b> 17th Women in Machine Learning Workshop (WiML 2022)
	<b>Publicity Chair:</b> 4th Workshop for Conversational AI, ACL 2022
	<b>Program Committee/Conference Reviewer:</b> ACL 2019, ACL 2020, *SEM 2020, ICLR 2021, AAAI 2021, EACL 2021, NAACL 2021, ACL 2021, *SEM 2021, NeurIPS 2021, EMNLP 2021, NLPCC 2021, ICLR 2022, AAAI 2022, ICML 2022, ACL 2022, CHI 2022, SIGDIAL 2022, HCI+NLP workshop at NAACL 2022, ACL Rolling Review 2021-2022
	<b>Journal Reviewer:</b> ACM Transactions on Human-Robot Interaction, Neurocomputing, ACM Transactions on Information Systems
	<b>CS Graduate Admission Committee:</b> Columbia University, 2022