

# Weiyan Shi

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

16. [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

15. [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

14. [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

13. [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

12. [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

11. [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

10. [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

9. [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

8. **Structured Attention for Unsupervised Dialogue Structure Induction**

Liang Qiu, Yizhou Zhao, Weiyang Shi, Yuan Liang, Feng Shi, Tao Yuan, Zhou Yu, Song-Chun Zhu

Empirical Methods in Natural Language Processing (EMNLP), 2020

7. **Understanding User Resistance Strategies in Persuasive Conversations**

Youzhi Tian, Weiyang Shi, Chen Li, Zhou Yu

Findings of Empirical Methods in Natural Language Processing (EMNLP), 2020

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

Weiyang Shi, Xuwei Wang, Yoo Jung Oh, Jingwen Zhang, Saurav Sahay, Zhou Yu

Conference on Human Factors in Computing Systems (CHI), 2020

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

Yu Li, Kun Qian, Weiyang Shi, Zhou Yu

AAAI Conference on Artificial Intelligence (AAAI), 2020

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

Weiyang Shi\*, Kun Qian\* (equal contribution), Xuwei Wang, Zhou Yu

Empirical Methods in Natural Language Processing (EMNLP), 2019

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

Xuwei Wang\*, Weiyang Shi\* (equal contribution), Richard Kim, Yoojung Oh, Sijia Yang, Jingwen Zhang, Zhou Yu

Annual Meeting of the Association for Computational Linguistics (ACL), 2019

2. **Unsupervised Dialogue Structure Learning**

Weiyang Shi, Tiancheng Zhao, Zhou Yu

North American Chapter of the Association for Computational Linguistics (NAACL), 2019

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

Weiyang Shi, Zhou Yu

Annual Meeting of the Association for Computational Linguistics (ACL), 2018

IN  
SUBMISSION

1. **AutoReply: Detecting Dialogue Nonsense Introspectively with Discriminative Replies**

Weiyang Shi, Emily Dinan, Adi Renduchintala, Daniel Fried, Athul Paul Jacob, Zhou Yu, Mike Lewis

In submission, 2022

PREPRINTS

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

Kushal Chawla\*, Weiyang Shi\* (equal contribution), Jingwen Zhang, Gale Lucas, Zhou Yu, Jonathan Gratch

arXiv, 2022

1. [When Life Gives You Lemons, Make Cherryade: Converting Feedback from Bad Responses into Good Labels](#)

**Weiyang Shi**, Emily Dinan, Kurt Shuster, Jason Weston\*, Jing Xu\* (equal contribution)

arXiv, 2022

|               |  |                     |
|---------------|--|---------------------|
| INVITED TALKS | <i>Reducing Repetition and Contradiction in Dialogue Systems</i> , Columbia NLP Seminar, Spring 2021 |                     |
|               | <i>Selective Differential Privacy in Language Modeling</i> , Columbia NLP Seminar, Fall 2021         |                     |
|               | <i>Sentiment-adaptive Dialogue Systems</i> , Cresta, Spring 2019                                     |                     |
| MENTORING     | <b>Max Chen</b>  | 2021-Present        |
|               | Ph.D. student  | Columbia University |
|               | Project: <a href="#">Persuasive dialogue systems</a>   |                     |
|               | <b>Yu Li</b>   | 2018-Present        |
|               | Ph.D. student  | Columbia University |
|               | Project: <a href="#">Anti-scam dialogue systems</a> and <a href="#">dialogue evaluation</a>          |                     |
|               | <b>Payton Guo</b>  | 2022-Present        |
|               | Undergraduate student  | New York University |
|               | Project: Dialogue data denoising   |                     |
|               | <b>Ryan Shea</b>   | 2022-Present        |
|               | Master student   | Columbia University |
|               | Project: <a href="#">Membership inference attack on NLP models</a>                                   |                     |
|               | <b>Evan Li</b>   | 2021                |
|               | Undergraduate student  | Columbia University |
|               | Project: <a href="#">Differential privacy and attack models in NLP</a>                               |                     |
|               | <b>Chelsea Cui</b>   | 2021                |
|               | Master student (Master at Columbia → Now at Amazon)  | Columbia University |
|               | Project: <a href="#">Differential privacy and dialogue simulation</a>                                |                     |
|               | <b>Shirley Anugrah Hayati</b>  | 2019-2020           |
|               | Master student (Master at CMU → Now Ph.D. at University of Minnesota)                                | CMU                 |
|               | Project: <a href="#">Sociable recommendation dialogues</a>   |                     |
|               | <b>Jing Gu</b>   | 2019-2020           |
|               | Master student (Master at UC Davis → Now Ph.D. at UC Santa Cruz)                                     | UC Davis            |
|               | Project: <a href="#">Pre-training models for task-oriented dialogue systems</a>                      |                     |
|               | <b>Xuwei Wang</b>  | 2019-2020           |
|               | Undergraduate student (Master at CMU → Now at Meta)  | Zhejiang University |
|               | Project: <a href="#">Persuasive dialogues</a> and <a href="#">dialogue user simulator</a>            |                     |
| TEACHING      | <b>Co-instructor: COMS 6998, Conversational AI</b> , Columbia  | Fall 2022           |

- *Topics*: 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).
- 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.

**Guest Lecturer: COMS 4705, Natural Language Processing, Columbia** Spring 2022  
 · *Topic*: dialogue systems (spoken and text-based)  
 · Prepared and delivered a lecture to a 100-student upper-division undergraduate introduction course to NLP

**Teaching Assistant: COMS 6998, Conversational AI, Columbia** Spring 2021  
 · *Topics*: various topics on dialogue systems  
 · Co-designed (with Prof. Zhou Yu) the curriculum; co-supervised course projects; held office hours and graded the assignments.

## SERVICE

**Area Chair:** [17th Women in Machine Learning Workshop](#) (WiML 2022)

**Publicity Chair:** [4th Workshop for Conversational AI](#), ACL 2022

**Program Committee/Conference Reviewer:** 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

**Journal Reviewer:** ACM Transactions on Human-Robot Interaction, Neurocomputing, ACM Transactions on Information Systems

**CS Graduate Admission Committee:** Columbia University, 2022

## REFERENCES

**Zhou Yu** (doctoral advisor)  
 Assistant Professor  
 Computer Science Department, Columbia University  
[zy2461@columbia.edu](mailto:zy2461@columbia.edu)

**Kathleen McKeown**  
 Henry and Gertrude Rothschild Professor  
 Computer Science Department, Columbia University  
[kathy@cs.columbia.edu](mailto:kathy@cs.columbia.edu)

**Jason Weston**  
 Research Scientist, Meta AI Research  
 Visiting Research Professor, Computer Science Department, New York University  
[jase@meta.com](mailto:jase@meta.com)

**Mike Lewis**  
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 Meta AI Research

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**Ruoxi Jia**

Assistant Professor

Virginia Tech

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