# Qingcheng Zeng

# Ph.D. Student at Northwestern University

#### Education

#### 2022–2027 Ph.D. in Computational Linguistics

(Expected) Department of Linguistics, Northwestern University, Evanston, IL

o Advisor: Professor Rob Voigt and Professor Kaize Ding

#### 2019–2021 B.A. in Linguistics

University of Manchester, Manchester, UK

B.A. Dissertation: "Automatic Sociophonetics: Investigating Language Variation in General Northern English with Machine Learning Based Classification Methods," supervised by Dr. Patrycja Strycharczuk.

#### 2017–2021 B.A. in Linguistics

Zhejiang University, Hangzhou, China

#### Research Interests

#### NLP for Social Applications

I am curious about the potential of large language models (LLMs) to enhance our comprehension of political, economic, and social trends, promote more meaningful discussions, and how social-oriented benchmarks can assist in evaluating these models.

#### Trustworthy LLMs

My goal is to evaluate and improve the calibration of LLMs.

#### Multilingual NLP

I am interested in evaluating multilingual LLMs, creating multilingual benchmarks, and understanding the inner architecture of these models to help build a fairer language technology world.

# Research Appointment

June 2025 - Research Scientist Intern

Sep 2025 Tencent AI Lab America, Bellevue, WA

(Incoming)

Sep 2024 - Visiting Graduate Student

Nov 2024 Westlake NLP, Westlake University

 Conducted research in multilingual calibration, supervised by Professor Yue Zhang and Dr Leyang Cui.

#### 2024 Visiting Graduate Student

Summer Center for Language and Speech Processing, Johns Hopkins University

- Conducted research in AI-curated democratic discourse, supervised by Professor Jason Eisner.
- 2021–2022 Research Assistant in Natural Language Processing Zhejiang University, Hangzhou, China
  - Conducted research in multilingual NLP and biomedical NLP, supervised by Professor Jie Yang.
  - O Research Output: effective language model adaptation at *IJCAI 2023*.

#### **Publications**

#### Referred Conference/Journal Articles

- \* denotes authors of equal contribution; # denotes corresponding author
- COLING Mingyu Jin\*, Qinkai Yu\*, Jingyuan Huang\*, **Qingcheng Zeng\***, Zhenting 2025 Wang, Wenyue Hua, Haiyan Zhao, Kai Mei, Yanda Meng, Kaize Ding, Fan Yang, Mengnan Du, Yongfeng Zhang, 2024, Exploring Concept Depth: How Large Language Models Acquire Knowledge and Concept at Different Layers?, Accepted in COLING 2025
  - Autism Joseph C.Y. Lau, Emily Landau, **Qingcheng Zeng**, Ruichun Zhang, Stephanie Crawford, Rob Voigt, Molly Losh, 2024, Pre-trained AI language model represents pragmatic language variability central to autism and genetically-related phenotypes, Accepted in Autism: International Journal of Research and Practice
- EMNLP Qingcheng Zeng, Mingyu Jin, Rob Voigt, 2024, Adaptive Axes: A Pipeline for 2024 In-domain Social Stereotype Analysis, In Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing, pages 15576–15593, Miami, Florida, USA. Association for Computational Linguistics.
  - JMIR Rui Yang\*, Qingcheng Zeng\*, Keen You\*, Yujie Qiao\*, Chia-Chun Hsieh, Benjamin Rosand, Jeremy Goldwasser, Amisha Dave, Tiarnan Keenan, Yu He Ke, Chuan Hong, Nan Liu, Emily Chew, Dragomir Radev, Zhiyong Lu, Hua Xu, Qingyu Chen, Irene Li, 2024, Ascle—A Python Natural Language Processing Toolkit for Medical Text Generation: Development and Evaluation Study, In Journal of Medical Internet Research 2024;26:e60601
- Findings of Fan Gao, Hang Jiang, Rui Yang, **Qingcheng Zeng**, Jinghui Lu, Moritz Blum, ACL 2024 Dairui Liu, Tianwei She, Yuang Jiang, Irene Li, 2024, Evaluating Large Language Models on Wikipedia-Style Survey Generation, In Findings of the Association for Computational Linguistics: ACL 2024, pages 5405–5418, Bangkok, Thailand. Association for Computational Linguistics.
- NEJM AI Jiageng Wu, Xiaocong Liu, Minghui Li, Wanxin Li, Zichang Su, Shixu Lin, Lucas Garay, Zhiyun Zhang, Yujie Zhang, **Qingcheng Zeng**, Jie Shen, Changzheng Yuan, Jie Yang, 2024, Clinical Text Datasets for Medical Artificial Intelligence and Large Language Models A Systematic Review, In New England Journal of Medicine AI, 1(6)
- Findings of Suet-Ying Lam\*, Qingcheng Zeng\*#, Kexun Zhang\*, Chenyu You, Rob Voigt, ACL 2023 2023, Large Language Models Are Partially Primed in Pronoun Interpretation, In Findings of the Association for Computational Linguistics: ACL 2023, pages 9493–9506, Toronto, Canada. Association for Computational Linguistics.

- IJCAI 2023 Qingcheng Zeng\*, Lucas Garay\*, Peilin Zhou\*, Dading Chong, Yining Hua, Jiageng Wu, Yikang Pan, Han Zhou, Rob Voigt, Jie Yang#, 2023, GreenPLM: Cross-Lingual Transfer of Monolingual Pre-Trained Language Models at Almost No Cost, In Proceedings of the Thirty-Second International Joint Conference on Artificial Intelligence, pages 6290–6298, Macau, China. International Joint Conferences on Artificial Intelligence.
  - ICASSP Dading Chong, Helin Wang, Peilin Zhou, Qingcheng Zeng, 2023, Masked
     Spectrogram Prediction for Self-Supervised Audio Pre-Training, In ICASSP
     2023 2023 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), pages 1-5, Rhodes Island, Greece. IEEE.
  - COLING Qingcheng Zeng and An-Ran Li, 2022, A Survey in Automatic Irony Processing:

    2022 Linguistic, Cognitive, and Multi-X Perspectives, In Proceedings of the 29th
    International Conference on Computational Linguistics, pages 824-836, Gyeongju,
    Republic of Korea. International Committee on Computational Linguistics.
    - IS 2022 Qingcheng Zeng, Dading Chong, Peilin Zhou, Jie Yang#, 2022, Low-resource Accent Classification in Geographically-proximate Settings: A Forensic and Sociophonetics Perspective, In *Proceedings of Interspeech 2022*, pages 5308-5312, Incheon, Korea. International Speech Communication Association.
    - IS 2022 Peilin Zhou, Dading Chong, Helin Wang, Qingcheng Zeng, 2022, Calibrate and Refine! A Novel and Agile Framework for ASR Error Robust Intent Detection, In Proceedings of Interspeech 2022, pages 1096-1100, Incheon, Korea. International Speech Communication Association.

#### Articles in Peer-reviewed Workshop Proceedings

- WNU Mourad Heddaya, **Qingcheng Zeng**, Alexander Zentefis, Rob Voigt, Chenhao Tan, 2024, Causal Micro-Narratives, In *Proceedings of The 6th Workshop on Narrative Understanding*, pages 67–84, Miami, Florida, USA. Association for Computational Linguistics.
- BioNLP Rui Yang, Haoran Liu, Edison Marrese-Taylor, **Qingcheng Zeng**, Yu He Ke, Wanxin Li, Lechao Cheng, Qingyu Chen, James Caverlee, Yutaka Matsuo, Irene Li, 2024, KG-Rank: Enhancing Large Language Models for Medical QA with Knowledge Graphs and Ranking Techniques, In *Proceedings of the 23rd Workshop on Biomedical Natural Language Processing*, pages 155–166, Bangkok, Thailand. Association for Computational Linguistics.
- W-NUT Qingcheng Zeng, Xiaoyang Fang, Zhexin Liang, Haoding Meng, 2020, Fancy 2020 Man Launches Zippo at WNUT 2020 Shared Task-1: A Bert Case Model for Wet Lab Entity Extraction, In Proceedings of the Sixth Workshop on Noisy User-generated Text (W-NUT 2020), pages 299-304, Online. Association for Computational Linguistics.

#### Abstracts and Conference Posters

LabPhon 19 Seung-Eun Kim, **Qingcheng Zeng**, Bronya R. Chernyak, Joseph Keshet, Matthew Goldrick, Ann R. Bradlow, 2024, Quantifying perceptual similarity of connected speech, In the 19th Conference on Laboratory Phonology (LabPhon 19), Hanyang University, June 2024

- NWAV 49 Fenqi Wang, Delin Deng, Qingcheng Zeng, Ratree Wayland, Kevin Tang, 2021, A corpus study of the production of syllable-initial /l/ and /n/ in Gan-accented Mandarin: Random forest classification, In New Ways of Analyzing Variation, University of Texas at Austin, October 2021
- UKLVC 13 Qingcheng Zeng, 2021, Machine learning in sociophonetics: Comparison of different approaches to accent classification and feature extraction, In UK Language Variation and Change 13, University of Glasgow, September 2021 Preprints
  - \* denotes authors of equal contribution; # denotes corresponding author
- arXiv 2024 Qingcheng Zeng\*, Mingyu Jin\*, Qinkai Yu\*, Zhenting Wang, Wenyue Hua, Zihao Zhou, Guangyan Sun, Yanda Meng, Shiqing Ma, Qifan Wang, Felix Juefei-Xu, Kaize Ding, Fan Yang, Ruixiang Tang, Yongfeng Zhang, 2024, Uncertainty is Fragile: Manipulating Uncertainty in Large Language Models, In arXiv.
- arXiv 2022 Zezhong Jin, Dading Chong, Xiao Song, Zhaoyi Liu, Naipeng Ye, Qingcheng Zeng, 2022, Filter and evolve: progressive pseudo label refining for semisupervised automatic speech recognition, In arXiv.

#### Honors & Awards

- Q-Step Center Best Dissertation Award (£100) University of Manchester
- The Dean Award for Achievement

University of Manchester

Graduate Fellowship

Northwestern University

- o TGS Conference Travel Grant (IJCAI 2023, \$850) Northwestern University
- o TGS Conference Travel Grant (EMNLP 2024, \$800) Northwestern University
- O Departmental Travel Grant (EMNLP 2024, \$400) Northwestern University

## Teaching Experiences

- 2023 Fall Teaching Assistant, COGSCI 110, Introduction to Cognitive Science, Northwestern University
- 2025 Winter Teaching Assistant, LING331, Text Processing for Linguists, Northwestern University
- 2025 Spring Teaching Assistant, LING220, Language & Society, Northwestern University

#### Service

Conferences ICTAI 2022, AACL 2022, ICASSP 2024/2025, ACL Rolling Review, Reviewer WWW 2025, KDD 2025

Journal Computer Speech and Language, Knowledge-Based System, Expert Reviewer Systems With Applications, IEEE Access, International Journal of Medical Informatics, Information Processing and Management, Neurocomputing

Departmental Colloquium Committee Member 2023-2024 Service

## References

#### o Rob Voigt (PhD Advisor)

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#### O Kaize Ding (PhD Co-advisor)

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#### o Lingyao Li (PhD Committee)

School of Information Assistant Professor of Information University of South Florida Tampa, FL lingyaol@usf.edu

#### Matt Goldrick (Collaborator)

Department of Linguistics Professor of Linguistics and Psychology (by courtesy) Northwestern University Evasnton, IL matt-goldrick@northwestern.edu