Zhenqiao Song

UCSB – Santa Barbara, California, US

 +1-626-528-1560 •   zqsong108@gmail.com •   jocelynsong.github.io

Education

University of California, Santa Barbara   **Santa Barbara, US**
                                                            Sep. 2022-Now
- Ph.D. in Computer Science. Advisor: Prof. Lei Li

Fudan University   **Shanghai, China**
                                                            Sep. 2017-Jun. 2020
- M.S. in Computer Science. Advisor: Prof. Xiaoqing Zheng
- Shanghai Outstanding Graduate Student

Xiamen University   **Xiamen, China**
                                                            Sep. 2013-Jun. 2017
- B.S. in Computer Science. Advisor: Prof. Jinsong Su
- Ranked **3**/138 peers

Employment

Bytedance AI Lab FTE   **Shanghai, China**
NLP Researcher advised by Dr. Hao Zhou and Dr. Lei Li, MLNLC team.   *Jul. 2020- Aug. 2022*
- **Research Works on Multilingual Neural Generative Models**
  - **Parallel Multilingual Translation via Contextualized Self Switching**
    - Outperform multilingual transformer with as much as 0.74 BLEU improvement and 6.2x faster decoding speed in inference. **Paper is accepted by ICLR 2022**.
  - **Multilingual Text Generation Dataset**
    - Propose MTG, a new benchmark suite for multilingual text generation, which is the first-proposed multilingual multiway text generation dataset with the **largest human-annotated data** (**400k**). It includes four generation tasks across five languages. The paper is accepted by NAACL findings 2022.
- **Industrial Applications on Language Generation and Understanding**
  - **Multilingual Advertising Title Generation**
    - Implement a multilingual Ad title generation model incorporating eight languages, including English, Chinese, Japanese, Vietnamese, Russian and so on. It is used in an online advertising system of ByteDance, and **the profit arises from $4,000/day to $200,000/day**.
  - **Advertisement Classification System**
    - Implement an advertisement classification model incorporating over 200 categories. **It achieves over 90% online average accuracy on all categories and the profit is over 4 million dollars one year.**
- **Research Works on AI Drug**
  - **Viral Protein Mutation**
    - Propose a viral protein mutation model involving mutated position detection and mutant prediction. Our model found a new possible variant of SARS-CoV-2.

Bytedance AI Lab Intern   **Shanghai, China**
Student Researcher advised by Dr. Hao Zhou   *Jun. 2019-Jun. 2020*
  - **Triangular Bidword Generation for Sponsored Search Auction**
    - Propose a triangular bidword generation model. **The proposed model is applied in the search system of ByteDance and achieves over $300 million every year.** The paper was accepted by WSDM 2021.

Research Interests

My research interests lie in the general area of natural language processing. I used to study applications on **generative modeling** and **cross-lingual representation learning**. Recently, I focus on **efficient generative modeling** and its applications, e.g., multilingual text generation and parallel multilingual translation. I also study **protein design** now.

Publications

[1] **Zhenqiao Song**, Hao Zhou, Lihua Qian, Jingjing Xu, Shanbo Cheng, Mingxuan Wang, and Lei Li. "switch-GLAT: Multilingual Parallel Machine Translation Via Code-Switch Decoder". In: *International Conference on Learning Representations* (***ICLR***). 2022.

[2] Yiran Chen, **Zhenqiao Song***, Xianze Wu, Danqing Wang, Jingjing Xu, Jiaze Chen, Hao Zhou, and Lei Li. "MTG: A Benchmarking Suite for Multilingual Text Generation". In: *Proceedings of the 2022 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies* (***NAACL-HLT Findings***). 2022.

[3] **Zhenqiao Song**, Jiaze Chen, Hao Zhou, and Lei Li. "Triangular Bidword Generation for Sponsored Search Auction". In: *Proceedings of the 14th ACM International Conference on Web Search and Data Mining* (***WSDM***). 2021, pp. 707–715.

[4] **Zhenqiao Song**, Xiaoqing Zheng, and Xuanjing Huang. "Jointly learning bilingual word embeddings and alignments". In: *Machine Translation* (2021), pp. 1–19.

[5] **Zhenqiao Song**, Xiaoqing Zheng, Lu Liu, Mu Xu, and Xuan-Jing Huang. "Generating responses with a specific emotion in dialog". In: *Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics* (***ACL***). 2019, pp. 3685–3695.

[6] Lu Liu, **Zhenqiao Song**, and Xiaoqing Zheng. "Improving Coreference Resolution by Leveraging Entity-Centric Features with Graph Neural Networks and Second-order Inference". In: *arXiv preprint arXiv:2009.04639* (2020).

[7] Jinsong Su, **Zhenqiao Song**, Yaojie Lu, Mu Xu, Changxing Wu, and Yidong Chen. "Exploring Implicit Semantic Constraints for Bilingual Word Embeddings". In: *Neural Processing Letters* 48.2 (2018), pp. 1073–1088.

Honors and Awards

- **National Scholarship**. 2020
- **Shanghai Outstanding Graduate**. 2020
- **Fudan University Excellent Scholarship**. 2017 - 2019
- **Xiamen University Excellent Scholarship**. 2013 - 2017

Academic Services

- **Conference Reviewer**: ACL 2020, EMNLP 2020, EMNLP 2022, NLPCC 2022

Teaching

- **Teaching Assistant** at Fudan University: Data Structures and Algorithms; Linear Algebra

Skill Set

- **Machine Learning API:**   Tensorflow, Pytorch