

Duzhen Zhang

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EDUCATION

Institute of Automation, Chinese Academy of Sciences (CASIA)

Ph.D. in School of Artificial Intelligence

Sep 2019 – Jun 2024

- Adviser: Prof. Bo Xu (the director of CASIA), Prof. Tielin Zhang
- Focus:
 - (1) Emotion Analysis in Conversations (Paper [1][2][3][4]);
 - (2) Incremental/Federated Learning and Its Applications in Information Extraction (Paper [5][6][7][8][17]);
 - (3) Brain-inspired Intelligence, Spiking Neural Networks, Reinforcement Learning (Paper [9][10][11][12][13][16]);
 - (4) Multi-Modal Learning, Large Pre-trained Model (**Future**) (Paper [14][15]);

Shandong University (SDU, Jinan)

B.Eng. in Software Engineering

Sep 2015 – Jun 2019

PUBLICATIONS

ACCEPTED PAPERS

(* denotes equal contribution.)

- [1] **Duzhen Zhang**, Xiuyi Chen, Shuang Xu and Bo Xu, “*Knowledge Aware Emotion Recognition in Textual Conversations via Multi-Task Incremental Transformer*”, in Proceedings of the 28th International Conference on Computational Linguistics (**COLING’2020, CCF-B, long paper, Oral**).
- [2] **Duzhen Zhang**, Zhen Yang, Fandong Meng, Xiuyi Chen and Jie Zhou, “*TSAM: A Two-Stream Attention Model for Causal Emotion Entailment*”, in Proceedings of the 29th International Conference On Computational Linguistics (**COLING’2022, CCF-B, long paper, Oral**).
- [3] **Duzhen Zhang**, Feilong Chen, Jianlong Chang, Xiuyi Chen and Qi Tian, “*Structure Aware Multi-Graph Network for Multi-Modal Emotion Recognition in Conversations*”, IEEE Transactions on MultiMedia (**TMM, SCI, IF:7.3, CAS-Q1, CCF-B**).
- [4] **Duzhen Zhang**, Feilong Chen and Xiuyi Chen, “*DualGATs: Dual Graph Attention Networks for Emotion Recognition in Conversations*”, in Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (**ACL’2023, main conference, CCF-A, long paper**).
- [5] **Duzhen Zhang**, Yahan Yu, Feilong Chen and Xiuyi Chen, “*Decomposing Logits Distillation for Incremental Named Entity Recognition*”, in Proceedings of the 46th International ACM SIGIR Conference on Research and Development in Information Retrieval (**SIGIR’2023, CCF-A**).
- [6] **Duzhen Zhang**, Hongliu Li, Wei Cong, Rongtao Xu, Jiahua Dong and Xiuyi Chen, “*Task Relation Distillation and Prototypical Pseudo Label for Continual Named Entity Recognition*”, in Proceedings of the 32nd ACM International Conference on Information and Knowledge Management (**CIKM’2023, CCF-B, long paper, Oral**).
- [7] Jiahua Dong*, **Duzhen Zhang***, Yang Cong, Wei Cong, Henghui Ding and Dengxin Dai, “*Federated Incremental Semantic Segmentation*”, the IEEE/CVF Conference on Computer Vision and Pattern Recognition 2023 (**CVPR’2023, CCF-A**).
- [8] **Duzhen Zhang**, Wei Cong, Jiahua Dong, Yahan Yu, Xiuyi Chen, Yonggang Zhang and Zhen Fang, “*Continual Named Entity Recognition without Catastrophic Forgetting*”, in Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing (**EMNLP’2023, main conference, CCF-B, long paper**).
- [9] **Duzhen Zhang**, Tieli Zhang, Shuncheng Jia and Bo Xu, “*Multi-scale Dynamic Coding improved Spiking Actor Network for Reinforcement Learning*”, in Proceedings of the 36th Association for the Advancement of Artificial Intelligence (**AAAI’2022, CCF-A, Oral**).
- [10] **Duzhen Zhang**, Shuncheng Jia and Qingyu Wang, “*Recent Advances and New Frontiers in Spiking Neural Networks*”, in Proceedings of the 31st International Joint Conference on Artificial Intelligence (**IJCAI’2022, CCF-A**).

- [11] Qingyu Wang, Tielin Zhang, Minglun Han, Yi Wang, **Duzhen Zhang**, Bo Xu, “*Complex Dynamic Neurons Improved Spiking Transformer Network for Efficient Automatic Speech Recognition*”, in Proceedings of the 37th Association for the Advancement of Artificial Intelligence (**AAAI’2023, CCF-A**).
- [12] Xuanle Zhao, **Duzhen Zhang**, Liyuan Han, Tielin Zhang, Bo Xu, “*ODE-based Recurrent Model-free Reinforcement Learning for POMDPs*”, in Proceedings of the Thirty-seventh Conference on Neural Information Processing Systems (**NeurIPS’2023, CCF-A**).
- [13] **Duzhen Zhang**, Tielin Zhang, Shuncheng Jia, Qingyu Wang and Bo Xu, “*Tuning Synaptic Connections instead of Weights by Genetic Algorithm in Spiking Policy Network*”, Machine Intelligence Research (**MIR, ESCI**).
- [14] Feilong Chen, **Duzhen Zhang**, Xiuyi Chen, Jing Shi, Shuang Xu and Bo Xu, “*Unsupervised and Pseudo-Supervised Vision-Language Alignment in Visual Dialog*”, in Proceedings of the 30th ACM International Conference on Multimedia (**ACM MM’2022, CCF-A**).
- [15] Feilong Chen*, **Duzhen Zhang***, Minglun Han, Xiuyi Chen, Jing Shi, Shuang Xu and Bo Xu, “*VLP: A Survey on Vision-Language Pre-training*”, Machine Intelligence Research (**MIR, ESCI**).

PLAN TO SUBMIT

- [16] **Duzhen Zhang**, Qingyu Wang, Tielin Zhang and Bo Xu, “*Biologically-Plausible Topology Improved Spiking Actor Network for Efficient Deep Reinforcement Learning*”, Science China Information Sciences (**SCIS, SCI, IF:8.8, CAS-Q2, CCF-A**).
- [17] **Duzhen Zhang**, Wei Cong, Jiahua Dong and Xiuyi Chen, “*Federated Incremental Named Entity Recognition*”, ACL Rolling Review (**ARR, long paper**).

INTERN EXPERIENCE

Natural Language Processing Center, Technology Group (TEG), Tencent

Research Engineering Intern

May 2020 – Aug 2020

- Mentor: Dr. Suncong Zheng
- Worked on Neural Chinese Word Segmentation incorporating Prior Vocabulary Knowledge
- By incorporating prior knowledge of the dictionary into the neural Chinese word segmentation model, problems related to OOV and cross-domain word segmentation have been alleviated. This function has been launched into Tencent’s internal basic NLP tool “QQSeg”.

Pattern Recognition Center, Weixin Group (WXG), Tencent

Research Intern

Mar 2021 – Aug 2021

- Mentor: Dr. Zhen Yang and Dr. Fandong Meng
- Worked on Emotion Anayasis in Conversations
- The outcomes were accepted by COLING’22.

Search Strategy Department, Baidu

Research Intern

Apr 2023 – Jul 2023

- Mentor: Dr. Xiuyi Chen
- Worked on Incremental Learning and LLM Inference Acceleration
- The outcomes were accepted by CIKM’23.

AWARDS & SCHOLARSHIPS

- First-Class Scholarship for Outstanding Students of Shandong University Sep 2017
- Second Prize in the National College English Contest Apr 2018
- Second Prize of National College Student Mathematics Competition Oct 2017
- Fourth place in Shenzhen Cup Mathematical Modeling Challenge Aug 2017

IT SKILLS

- Programming language: Python > C++ == C == Shell > Java
- Deep learning framework: Pytorch > Tensorflow

[CV compiled on 2023-12-01]