XUEQING WU

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EDUCATION

University of California, Los Angeles 09/2023 - Present
PhD in Computer Science (in progress). Advisor: Kai-Wei Chang, Nanyun Peng.

University of Illinois Urbana-Champaign 08/2021 - 05/2023
MS in Computer Science. Advisor: Heng Ji.

University of Science and Technology of China 09/2016 - 06/2020
BS in Electronic Engineering and Information Science. GPA: 4.03/4.30 (rank: 1/363).

RESEARCH EXPERIENCE

University of California, Los Angeles 09/2023 - Present
Research Assistant. Mentor: Kai-Wei Chang, Nanyun Peng

- Evaluate and benchmark the self-critique and self-refinement capabilities of VLMs. (In progress)
- Proposed VDebugger, a critic-refiner framework that debugs visual programs by reasoning over execution feedback, pinpoints error-inducing location and corrects the input program. Improved accuracy by up to 3.2% on six visual reasoning benchmarks. [**EMNLP Findings 2024**]

University of Illinois Urbana-Champaign 08/2021 - 05/2023
Research Assistant. Mentor: Heng Ji

- Established a better benchmark for *open-vocabulary state tracking* with high-quality human-annotated dataset and robust evaluation metrics. Proposed two techniques, *entity memory* and *entity-conditioned prediction*, to improve the performance. [**ACL Findings (short paper) 2023**]
- Proposed a novel task of *cross-document misinformation detection*, including document-level and fine-grained *event-level* detection. Designed a GNN-based detector that reasons over cross-document knowledge graph and significantly outperforms existing methods by up to 7 F1. [**NAACL 2022**]

INTERNSHIP EXPERIENCE

Bytedance AI Lab 05/2023 - 09/2023
Research Intern. Mentor: Haoran Huang *Shanghai, China*

- Proposed the challenging DACO dataset to evaluate real-world application oriented data analysis, containing 440 diverse databases, ∼2k data with automatic annotations, and sim200 data with human annotations. Benchmarked a wide range of algorithms including LLM+code generation and fine-grained RLHF. [**NeurIPS Dataset and Benchmark Track 2024**]

IBM Research 05/2022 - 08/2022
Research Intern. Mentor: Alfio Gliozzo *Yorktown Heights, NY*

- Proposed a retrieval-augmented model for table augmentation tasks including cell filling, row population and column population. Achieved state-of-the-art on two datasets with absolute MRR gains of up to 30% compared to non-retrieval baselines. [**ACL Findings 2023**]

Bytedance AI Lab 07/2020 - 07/2021
Research Intern. Mentor: Hang Li *Beijing, China*

- Proposed and benchmarked *text-to-table*, a novel IE setting that extracts table-format information and requires no pre-defined schema. Adopted a seq2seq approach that significantly outperforms named entity extraction and relation extraction. [**ACL 2022**]

Microsoft Research Asia   10/2019 - 06/2020
Research Intern. Mentor: Tao Qin   *Beijing, China*

- Proposed a novel sequence learning framework that boosts a given main task using auxiliary training tasks. Designed a novel RL algorithm to jointly train the base model and task scheduler, which improved the baselines on four simultaneous translation tasks and a stock forecasting task. [**ICML 2021**]

PUBLICATIONS

- **Xueqing Wu**, Zongyu Lin, Songyan Zhao, Te-Lin Wu, Pan Lu, Nanyun Peng, Kai-Wei Chang, *VDebugger: Harnessing Execution Feedback for Debugging Visual Programs*, EMNLP Findings. 2024. Link
- Zi-Yi Dou, Cheng-Fu Yang, **Xueqing Wu**, Kai-Wei Chang, Nanyun Peng, *Reflection-Reinforced Self-Training for Language Agents*, EMNLP. 2024. Link
- **Xueqing Wu**, Rui Zheng, Te-Lin Wu, Hanyu Zhou, Tang Mohan, Kai-Wei Chang, Nanyun Peng, Haoran Huang, *DACO: Towards Application-Driven and Comprehensive Data Analysis via Code Generation*, NeurIPS Dataset and Benchmark Track. 2024. Link
- Xiao Liu, Zirui Wu, **Xueqing Wu**, Pan Lu, Kai-Wei Chang, Yansong Feng, *Are LLMs Capable of Data-based Statistical and Causal Reasoning? Benchmarking Advanced Quantitative Reasoning with Data*, ACL Findings. 2024. Link
- Michael R. Glass, **Xueqing Wu**, Ankita Naik, Gaetano Rossiello, Alfio Gliozzo, *Retrieval-Based Transformer for Table Augmentation*, ACL Findings. 2023. Link
- **Xueqing Wu***, Sha Li*, Heng Ji, *OpenPI-C: A Better Benchmark and Stronger Baseline for Open-Vocabulary State Tracking*, ACL Findings (short paper). 2023. Link
- **Xueqing Wu**, Kung-Hsiang Huang, Yi Fung, Heng Ji, *Cross-document Misinformation Detection based on Event Graph Reasoning*, NAACL. 2022. Link
- **Xueqing Wu**, Jiacheng Zhang, Hang Li, *Text-to-Table: A New Way of Information Extraction*, ACL. 2022. Link
- **Xueqing Wu**, Lewen Wang, Yingce Xia, Weiqing Liu, Lijun Wu, Shufang Xie, Tao Qin, Tie-Yan Liu, *Temporally Correlated Task Scheduling for Sequence Learning*, ICML. 2021. Link
- **Xueqing Wu**, Yingce Xia, Jinhua Zhu, Lijun Wu, Shufang Xie, Tao Qin, *A Study of BERT for Context-Aware Neural Machine Translation*, ACML journal track. 2021. Link
- **Xueqing Wu**, Yingce Xia, Jinhua Zhu, Lijun Wu, Shufang Xie, Yang Fan, Tao Qin, *mixSeq: A Simple Data Augmentation Methodfor Neural Machine Translation*, IWSLT Workshop. 2021. Link
- Yixing Zhu, Jun Du, **Xueqing Wu**, *Adaptive Period Embedding for Representing Oriented Objects in Aerial Images*, IEEE Transactions on Geoscience and Remote Sensing. 2020. Link

ACADEMIC SERVICES

Reviewer for SoCalNLP 2023, NAACL 2024, ACL 2024, NLPCC 2024, EMNLP 2024, EMNLP 2024 demo track

AWARDS & HONORS

Graduate Dean's Scholar Award, UCLA   09/2023
Siebel Scholar (awarded annually to over 90 top students from the world), UIUC   09/2022
Guo Moruo Scholarship (highest honor at USTC, top 1%), USTC   10/2019

TEACHING

Teaching Assistant, UCLA CS 263, *Advanced Natural Language Processing*, Fall 2024, with Prof. Nanyun Peng
Teaching Assistant, UCLA CS 97, *Introduction to Generative AI*, Summer 2024, with Prof. Nanyun Peng
Teaching Assistant, UIUC CS 173, *Discrete Structures*, Fall 2021, with Prof. Benjamin Cosman