

# Ruiyu Wang

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## EDUCATION

### University of Toronto

Toronto, ON

*B.Sc (Hons), Computer Science Specialist, Focus in NLP, cGPA 3.65*

*Aug. 2020 - Jun 2024*

- Dean's list scholar 2020 - 2024, graduated with high distinction
- 3-year New College in-course scholarship holder (2020-2023)

## MANUSCRIPTS & PREPRINTS

**Ruiyu Wang**, Yu Yuan, Shizhao Sun, Jiang Bian. *Text-to-CAD Generation Through Infusing Visual Feedback in Large Language Models* <sup>1</sup>.

**Ruiyu Wang**, Sen Wang, Xinxin Zuo, Qiang Sun. Incremental Learning with Task-specific Adapters <sup>2</sup>.

Jinman Zhao, Xueyan Zhang, Xingyu Yue, Weizhe Chen, Zifan Qian, **Ruiyu Wang**. Can Language Model Understand Word Semantics as A Chatbot? An Empirical Study of Language Model Internal External Mismatch <sup>3</sup>.

**Ruiyu Wang**. *Revisiting GloVe, Word2Vec and BERT: On the Homogeneity of Word Vector* <sup>4</sup>.

**Ruiyu Wang**, Matthew Choi. *Large Language Models on Lexical Semantic Change Detection: An Evaluation* <sup>5</sup>.

**Ruiyu Wang**, Zifeng Wang, Jimeng Sun. *UniPredict: Large Language Models are Universal Tabular Predictors* <sup>6</sup>.

## RESEARCH EXPERIENCE

### Research Assistant

Microsoft Research Lab - Asia

*Aug 2024 - Present*

*Beijing, China*

- Worked on LLM for Computer Aided Design (CAD) construction, and the integration of direct preference optimization.
- Worked with Dr. Shizhao Sun

### Undergraduate Research Assistant

StatsLE, University of Toronto

*Sep 2023 - Present*

*Toronto, ON*

- Worked on an adapter-based incremental learning framework.
- Supervised by Prof. Qiang Sun

### Undergraduate Research Assistant

Mathematical Linguistics Group, University of Toronto

*May 2023 - Present*

*Toronto, ON*

- Worked on embeddings and vector distributions of language models, and the homogeneity of word embeddings.
- Supervised by Prof. Gerald Penn

*Jan. 2023 - Jun. 2023*

*Toronto, ON*

- Worked on human studies and the metrology of natural language generation in the pre-LLM era.
- Supervised by Prof. Gerald Penn

### Visiting Undergraduate Research Assistant

SunStella, University of Illinois Urbana-Champaign

*May 2023 - Oct 2023*

*Champaign (remote), IL*

- Worked on the universal tabular prediction, and an LLM approach with target augmentation.
- Supervisor: Prof. Jimeng Sun

## WORK EXPERIENCE

### Data Analyst Intern

Tencent Ltd.

*June 2022 - Aug 2022, Contract Full-time*

*Shanghai, China*

## HIGHLIGHT OF QUALIFICATION

**Programming experience:** Java(7 years), Python(5 years), C(3 years)

**Tools:** PyTorch, Numpy, Pandas, L<sup>A</sup>T<sub>E</sub>X, Git, SpaCy, NLTK, HuggingFace (non-exhaustive)

**Research Interest:** Deep learning, Natural Language Processing, LLM foundation model & interpretability

<sup>1</sup>Submitted to CVPR 2025. Preprint to be released.

<sup>2</sup>Submitted to ICLR 2025. Preprint to be released.

<sup>3</sup>Submitted to COLING 2025. Preprint to be released.

<sup>4</sup>Capstone Project Report. To be turned into venue submission.

<sup>5</sup>Preprint. Work done during CSC2611, 2023 Fall, supervised by Prof. Yang Xu.

<sup>6</sup>Submitted to NeurIPS 2024.