CHIYU ZHANG

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⌂: https://chiyuzhang94.github.io/

HIGHLIGHTS

- 8+ years of experience in research of machine learning natural language processing (NLP), and generative AI. Published in top-tier conferences.
- **Programming:** Python, R, C#, & MatLab
- **Libraries:** NLTK, spaCy, gensim, scikit-learn, PyTorch, Keras, & Transformers
- **Database:** MySQL, Solr, Hadoop, & Spark

EDUCATION

The University of British Columbia, Canada *Sep. 2018 - Jun. 2024 (expected)*
Doctor of Philosophy in Information Science | Average: 88.1/100.0
Advisor: Dr. Muhammad Abdul-Mageed
Research Interests: Natural Language Processing and Deep Learning.

Clarkson University, USA *Aug. 2016 - Dec. 2017*
Master of Science in Data Science | GPA: 3.94/4.00
Advisor: Dr. Boris Jukic

Xiamen University of Technology, China *Sep. 2012 - Jun. 2016*
Bachelor in Information Systems (Honours) | Average: 87.42/100.00
Advisor: Dr. Yihui Qiu

EXPERIENCE

Research Scientist Intern Aug. 2023 - Jan. 2024
Meta, USA

- Worked on a project to improve recommendation systems for content (e.g., news or books) by capturing users' holistic interests from their online activities. Leveraged contrastive learning and large language models (LLMs) to better match users with content they would find relevant and interesting. Our proposed method outperforms state-of-the-art methods and supports real-world applications.

Research Intern May - Aug. 2023
Google, Canada

- Contributed to a project focused on enhancing generative models for text style transformation. Utilized LLMs to generate text with targeted stylistic attributes and detailed reasoning of the rewriting process (i.e., chain-of-thought prompting). Implemented knowledge distillation techniques to optimize model efficiency, achieving marked improvements in performance under data-scarce conditions.

Visiting Researcher Dec. 2022 - May 2023
Mohamed bin Zayed University of Artificial Intelligence, UAE

- Engaged in NLP and deep learning research, (1) the development of language models to enhance the understanding and translation of Arabic and its diverse dialects, (2) the strategic compression of large generative models, achieving substantial reductions in model size while preserving their efficacy, and (3) the comprehensive evaluation of LLMs across 13 socio-pragmatic tasks in 64 languages.

Machine Learning Research Intern Sep. 2022 - Feb. 2023
Borealis AI, Canada

- Contributed to a research project aimed at bolstering the robustness and performance of neural-based models for time-series forecasting. Conducted a comprehensive analysis of the impact of various training variables for time-series representation learning, including diverse contrastive learning algorithms, learning strategies, model architectures, and their synergistic effects.

Research Assistant   Aug. 2018 - May 2023
The University of British Columbia, Canada

- Worked on various NLP and deep learning research projects, including but not limited to enhancing mono- and cross-lingual language representation learning with billion-scale social media data and Transformer-based models, deep learning for socio-pragmatics, identification of lexical dialect variations, graph-based user modelling, text style transfer, and machine translation.

Senior Teaching Assistant   Sep. 2019 - May 2022
The University of British Columbia, Canada

- Prepared materials and instructed lab sections of four graduate-level machine learning courses, e.g., supervised learning, machine translation, and advanced NLP, in the Master of Data Science program.

Research Technician   Apr. 2018 - Jun. 2018
The University of Tennessee Health Science Center, USA

- Worked on the development of a web tool for biomedical text mining. Tasks included establishing a database and search engine (with Solr), and mining 2.2M biomedical literature to identify specific relationships between proteins, genes, or given keywords applying NLP and deep learning methods.

SELECTED PUBLICATIONS

- ***LaMini-LM: A Diverse Herd of Distilled Models from Large-Scale Instructions***
  Wu, M., Waheed, A., **Zhang, Chiyu**, A., M., & A., A., (2024). In Proceedings of the 18th Conference of the European Chapter of the Association for Computational Linguistics (EACL). ACL.

- ***The Skipped Beat: A Study of Sociopragmatic Understanding in LLMs for 64 Languages***
  Zhang, Chiyu, Doan, K. D., Liao, Q., & Abdul-Mageed, M., (2023). In Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing (EMNLP). ACL.

- ***Contrastive Learning of Sociopragmatic Meaning in Social Media***
  Zhang, Chiyu, Abdul-Mageed, M., & Jawahar, G., (2023). Findings of the Association for Computational Linguistics: ACL 2023. ACL.

- ***Decay No More: A Persistent Twitter Dataset for Learning Social Meaning***
  Zhang, Chiyu, Abdul-Mageed, M., & N., E. M. B., (2022). In Proceedings of the 1st Workshop on Novel Evaluation Approaches for Text Classification Systems on Social Media. ICWSM. **(Best paper)**

- ***Improving Social Meaning Detection with Pragmatic Masking and Surrogate Fine-Tuning***
  Zhang, Chiyu, & Abdul-Mageed, M., (2022). In Proceedings of the 12th Workshop on Computational Approaches to Subjectivity, Sentiment & Social Media Analysis (WASSA). ACL.

- ***Toward Micro-Dialect Identification in Diaglossic and Code-Switched Environments***
  Abdul-Mageed, M., **Zhang, Chiyu**, E., A., & U., L., (2020). In Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP). ACL.

- ***No Army, No Navy: BERT Semi-Supervised Learning of Arabic Dialects***
  Zhang, Chiyu, & Abdul-Mageed, M., (2019). In Proceedings of the Fourth Arabic Natural Language Processing Workshop (WANLP). ACL. **(Best system paper)**