

Mingze Ni, Ph.D. candidate

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Education

- 2020 – 2024 **Ph.D. candidate (thesis under reviewing)** in adversarial attack for NLP models.
- 2019 – 2020 **B.Sc (Honours). Statistics, University of Queensland** in Computational Statistics and Machine Learning.
- 2015 – 2019 **B.Sc. Statistics and Mathematics, Australian National University** in theoretical statistics

Career Objective

As a PhD candidate seeking a career in machine learning, my objective is to secure a challenging and rewarding role where I can leverage my research skills and expertise to contribute to the advancement of knowledge and innovation in the field. I am committed to pursuing a career that allows me to apply my knowledge and skills to real-world problems, collaborate with experts in the field, and continue to develop my skills as a researcher, engineer and professional. I am seeking a role that will provide opportunities for growth and advancement, and where I can make a meaningful impact on the organization and the wider community.

Research Publications

- **Mingze Ni**, Tianqing Zhu, Shui Yu, and Wei Liu: Attacking Neural Machine Translations via Hybrid Attention Learning. In Machine Learning journal, 2022.
- **Mingze Ni**, Zhensu Sun and Wei Liu: Fraud's Bargain Attacks to Textual Classifiers via Metropolis-Hasting Sampling. In Proceedings of The Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI 2023)
- **Mingze Ni**, Zhensu Sun, Wei Liu: Fraud's Bargain Attack: Generating Adversarial Text Samples via Word Manipulation Process. In IEEE Transactions on Knowledge and Data Engineering (TKDE), 2023.
- **Mingze Ni**, Zhensu Sun, Wei Liu: Reversible Jump Attack to Textual Classifiers with Modification Reduction. In Machine Learning journal, 2024.
- (Reviewing) **Mingze Ni**, Wei Liu: SleepNet: A Novel Paradigm Interweaving Supervised Learning and Unsupervised 'Sleep' Cycles for Classification Tasks. In The Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), 2024.
- Zhensu Sun, Xiaoning Du, Fu Song, Shangwen Wang, **Mingze Ni**, Li Li: Don't Complete It! Preventing Unhelpful Code Completion for Productive and Sustainable Neural Code Completion Systems (Poster). In International Conference on Software Engineering (ICSE 2023).
- Zhensu Sun, Xiaoning Du, Fu Song, **Mingze Ni**, Li Li: Coprotector: Protect open-source code against unauthorized training usage with data poisoning. In International World Wide Web Conference (WWW2022)
- Zhensu Sun, Xiaoning Du, Fu Song, Shangwen Wang, **Mingze Ni**, Li Li: Don't Complete It! Preventing Unhelpful Code Completion for Productive and Sustainable Neural Code Completion. In ACM Transactions on Software Engineering and Methodology (TOSEM).

Projects

- **Train a Bitcoin trading agent with reinforcement learning:** because of the unbalanced scenario in Bitcoin market, we try to train an agent with reinforcement learning to find the arbitrage to make profit. The agent's performance could make positive revenue without considering the transaction fees.
- **Tennis Result Prediction via Bayesian Models and Monte Carlo Methods:** by analyzing the historical data of the two players to get the distribution of the goal in each serve. By control, the variance of such a distribution, we can predict the result through the Markov Chain Monte Carlo.
- **Livestock Weight Prediction:** The Forecaster Livestock Team, financially supported by Agriwebb, will improve the prediction of livestock growth based on biophysical models and machine learning.
- **Foragecaster:** is an innovative tool that integrates machine learning algorithms with biophysical models to accurately predict livestock weights. This approach enhances the precision of weight forecasts for better livestock management.

Employment History

- 2024 – now **Postdoctoral Research** *University of Technology Sydney*, analyzing data, bioinformatics, biophysical models, and supervising research students.
- 2022 – 2023 **Research Assistant** *University of Technology Sydney*, analyzing data, implementing machine learning algorithms, biophysical models, and refining the neural network models to improve accuracy.
- 2019 – 2019 **Tutor.** *University of Queensland*, teaching mathematical statistics.

Skills

- Statistical Learning Algorithms: **GLM**, Gaussian Mixture Models, and Hidden Markov Models Ensemble methods, Non-parametric Models, Naive Bayesian methods, SVM, LDA.
- Deep Learning Algorithms: **CNN**, RNN, GRU, LSTM, VAE, GAN, Attentions, Transformers, Pretrained models (BERT, GPT), Neural machine Translation(Luong Translation model, BART, mBART).
- Probability and statistics **Probability theory (Advanced)**, Asymtotic theory, Robustness Theory, Stochastic Process, Hypothesis testing.
- Data Structure: **Big data analytics**, foundations of complex data structures.
- Programming Language **Python**, R, SQL, Matlab
- Languages **English**, Mandarin Chinese
- Software & Tools **MS Office**, \LaTeX