

Senior undergraduate at Peking University, focusing on various machine learning topics.

**Areas of expertise:** Representation Learning, Natural Language Processing, Computational Biology

## EXPERIENCE

### Research Assistant Sigma Lab

July 2019 —  
Peking University

- Supervised by Prof.Zhihong Deng.
- Work on Representation Learning via information theory, and its application in domain adaptation, adversarial robustness, and pre-training. Previously worked on optimization mechanism of gates in LSTM models.

### Research Intern DeepGraph Lab

January 2021 —  
MILA - Quebec AI Institute

- Supervised by Prof.Jian Tang.
- **Project Protein-ligand Docking:** use geometric learning methods as well as bi-level optimization negative sampling technique to dock small molecules on proteins. Achieve results comparable to SOTA.
- **Development of the TorchDrug Platform:** work on a general geometric learning platform that aims at making AI-based drug discovery accessible to all scientists.
- **Project Multi-task Learning on Proteins:** pre-train protein language models with multi-task learning on various protein tasks. The project will be released on TorchDrug platform.

### Research Collaboration NAIL Lab

June 2021 — October 2021  
Nanyang Technology University

- Supervised by Prof.Ahn Tuan Luu.
- **Project QA Generation:** generate coherent question-answer pair from unstructured text with mutual information maximization.
- **Project Certified Robustness:** provide certified robustness for general text perturbation on large pre-trained models.

## EDUCATION

PhD, Computer Science, HongKong University, co-advised by Prof.Lingpeng Kong and Prof.Tao Yu September 2022(expected)–  
Bachelor of Science, Machine Intelligence Major, Peking University, GPA: 3.58/4.0 September 2021 — July 2022(expected)

## TECHNICAL SKILLS

Programming/Scripting Python, C++, Javascript, PyTorch, LaTeX  
English Toefl 110/120, GRE 330/340

## PUBLICATIONS

- Haiteng Zhao, **Chang Ma**, Qinyu Chen, Zhihong Deng. *Domain Adaptation via Maximizing Surrogate Mutual Information*. **Long Presentation at IJCAI 2022**
- Haiteng Zhao\*, **Chang Ma\***, Xinshuai Dong\*, AnhTuan Luu, Zhihong Deng and Hanwang Zhang. *Domain Adaptation via Maximizing Surrogate Mutual Information*. **Short Presentation at ICML 2022**
- **Chang Ma\***, Song Zhang\*, Gehui Shen, and Zhihong Deng. *Switch-GPT: An Effective Method for Constrained Text Generation under Few-Shot Settings*. **AAAI 2022 Student Abstract**
- Zhaocheng Zhu, Chence Shi, Zuobai Zhang, Shengchao Liu, Minghao Xu, Xinyu Yuan, Yangtian Zhang, Junkun Chen, Huiyu Cai, Jiarui Lu, **Chang Ma**, Runcheng Liu, Louis-Pascal Xhonneux, Meng Qu, Jian Tang. *TorchDrug: A Powerful and Flexible Machine Learning Platform for Drug Discovery*. **Preprint**
- *Doorway CTM: Explaining forgetting via Conscious Turing Machine*, **Invited talk at IJTCS 2021**

\*Equal contribution.

## AWARDS & HONORS

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- 2019 First Prize ( **National Mathematical Modeling Competition for College Students** )
- 2019 Honorable Mention ( **Mathematical Contest In Modeling** )
- 2020 Peking University Learning Excellence Award

## SERVICE

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- 2021 Teaching assistant for course "Introduction to Artificial Intelligence — Natural Language Processing" at Peking University
- 2022 Teaching assistant for course "Introduction to Artificial Intelligence — Natural Language Processing" at Peking University
- 2022 Review for ICML2022