Chang Jin

jinchang1223@outlook.com chang-jin-293123345 jinchang1223

Education

Tongji University *Sep 2023 - Present*
Master of Computer Science

- GPA: **4.83**/5.00
- Related Courses: Machine Learning: Theories and Applications(5.0/5.0), Data Mining(5.0/5.0)

École Polytechnique Fédérale de Lausanne (EPFL) *Feb 2025 - Jul 2025*
Exchange Master Program of Computer Science

- GPA: **5.62**/6.00
- Related Courses: Modern Natural Language Processing(5.5/6.0)

Tongji University *Sep 2018 – Jun 2023*
Bachelor of Computer Science

- GPA: **4.91**/5.00
- Ranking: **3**/121
- Related Courses: Algorithm Analysis and Design(5.0/5.0), Machine Learning(5.0/5.0), Artificial Intelligence Principles and Technologies(5.0/5.0)

Publications

Effective and Explainable Molecular Property Prediction by a Chain-of-Thought Enabled LLM and Multi modal Molecular Information Fusion May 2025

Chang Jin, Siyuan Guo, Shuigeng Zhou*, Jihong Guan*

Journal of Chemical Information and Modeling **(JCR Q1)**

M3-20M: A Large-Scale Multi-Modal Molecule Dataset for AI-driven Drug Design and Discovery Jun 2025

Siyuan Guo, Lexuan Wang, **Chang Jin**, Jinxian Wang, Han Peng, Huayang Shi, Wengen Li, Jihong Guan, Shuigeng Zhou

Journal of Bioinformatics and Computational Biology

Enhanced Adaptive Graph Convolutional Network for Long-Term Fine-Grained SST Prediction Aug 2023

Han Peng, **Chang Jin** (co-first author), Wengen Li*, Jihong Guan

IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing **(JCR Q1)**

On Evaluating the Predictability of Sea Surface Temperature Using Entropy Apr 2023

Chang Jin, Han Peng, Hanchen Yang, Wengen Li*, Jihong Guan

Remote Sensing **(JCR Q1)**

Research Experience

Research on Constrained Decoding Methods for Structured Text Generation in Large Language Models *Feb 2025 – Present*
Advisor: Prof. Robert West (EPFL)

- Investigated capabilities of various LLMs to generate JSON objects that adhere to given JSON Schemas.
- Analyzed probability distributions during constrained decoding to reveal how schema constraints affect LLM generation behavior.
- Contributed a JSON Schema–based evaluation task to the open-source project **lm-evaluation-harness (9.5k stars)**, enabling structured-output LLM evaluation.

Research on Enhancing Abstention Mechanisms of Large Language Models for Temporal Reasoning Tasks *Sep 2024 – Present*

Advisor: Dr. Ali Bahrainian (Joint Lab, University of Tübingen & Brown University)

- Developed Chain-of-Thought reasoning and reinforcement learning based techniques to enhance LLM understanding of temporal knowledge.
- Improved model abstention mechanisms, enabling LLMs to abstain from answering unanswerable queries, reducing hallucinations and errors.
- **Publications**: Co-first author: manuscript submitted to EMNLP 2025 (high-impact international NLP conference).

Research on Drug Molecule Discovery Using Large Language Models *Sep 2023 – Present*

Advisor: Prof. Jihong Guan (Tongji University) & Prof. Shuigeng Zhou (Fudan University)

- Constructed M3-20M, a large-scale multi-modal molecular dataset with over 20 million molecules.
- Developed LLM-MPP, a Chain-of-Thought enhanced multimodal LLM for molecular property prediction, achieving state-of-the-art performance in prediction accuracy and interpretability.
- **Publications**:
  - First author: "**Effective and Explainable Molecular Property Prediction by a Chain-of-Thought Enabled LLM and Multimodal Molecular Information Fusion**", *Journal of Chemical Information and Modeling (JCR Q1).*
  - Co-author: "**M3-20M: A Large-Scale Multi-Modal Molecule Dataset for AI-driven Drug Design and Discovery**", *Journal of Bioinformatics and Computational Biology.*

Research on Spatio-temporal Modeling *Mar 2021 – Jun 2023*

Advisor: Prof. Jihong Guan & Prof. Wengen Li (Tongji University)

- Developed EA-GCN, a spatio-temporal deep learning model for long-term fine-grained sea surface temperature (SST) prediction, achieving state-of-the-art performance.
- Proposed a temporal-correlated entropy method to evaluate SST predictability from global and local perspectives, aiding marine and climate monitoring.
- **Publications**:
  - Co-first author: "**Enhanced Adaptive Graph Convolutional Network for Long-Term Fine-Grained SST Prediction**", *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (JCR Q1).*
  - First author: "**On Evaluating the Predictability of Sea Surface Temperature Using Entropy**", *Remote Sensing (JCR Q1).*

Honors and Awards

Outstanding Graduate of Tongji University	Jun 2023
First-Class Scholarship of Tongji University (top 5%)	2019, 2021
Second Prize of China Undergraduate Mathematical Contest in Modeling, Shanghai	2020

Skills

Programming Languages: Python, C++, C

Python Packages: PyTorch, TensorFlow, PyG, sklearn and other packages related to deep learning.

English Skills: IELTS: 7.5 (Listening: 7.5, Reading: 8.5, Writing: 7.5, Speaking: 6.5)