Jing LAN

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Education

The Hong Kong Polytechnic University (PolyU) — Hong Kong SAR, China
PhD Student in Health Technology and Informatics — *May. 2025 – Present*

Conservatoire national des arts et métiers (CNAM) — Paris, France
B.E. in Computer Science and Technology — *Sep. 2017 – Jun. 2021*

Research Interests

- **AI for Drug Discovery:** Specializing in deep learning applications for molecular docking, virtual screening, and protein-ligand binding affinity prediction.
- **Foundational AI Research:** Focusing on Pre-trained Language Models (PLMs), Multimodal Contrastive Learning, and Data-Centric AI for robust representation in complex systems.
- **Keywords:** `AI4Science`, `Computer-Aided Drug Discovery`, `Deep Learning`, `Computer Vision`.

Publications

** denotes equal contribution.*

Structure-Aware Contrastive Learning with Fine-Grained Binding Representations for Drug Discovery
Under Review / 2025 / [arXiv:2509.14788]
***Jing Lan**, Hexiao Ding, Hongzhao Chen, Yufeng Jiang, Nga-Chun Ng, Gwing Kei Yip, Gerald W.Y. Cheng, Yunlin Mao, Jing Cai, Liang-ting Lin, Jung Sun Yoo.*

Contrastive Multi-Task Learning with Solvent-Aware Augmentation for Drug Discovery
Under Review / 2025 / [arXiv:2508.01799]
***Jing Lan**, Hexiao Ding, Hongzhao Chen, Yufeng Jiang, Nga-Chun Ng, Gerald W.Y. Cheng, Zongxi Li, Jing Cai, Liang-ting Lin, Jung Sun Yoo.*

REACT-KD: Region-Aware Cross-modal Topological Knowledge Distillation for Interpretable Medical Image Classification
IEEE BIBM / 2025 / [arXiv:2508.02104]
*Hongzhao Chen, Hexiao Ding, Yufeng Jiang, **Jing Lan**, Ka Chun Li, Gerald W.Y. Cheng, Nga-Chun Ng, Yao Pu, Jing Cai, Liang-ting Lin, Jung Sun Yoo.*

M3AD: Multi-task Multi-gate Mixture of Experts for Alzheimer's Disease Diagnosis
Under Review / 2025 / [arXiv:2508.01819]
*Yufeng Jiang, Hexiao Ding, Hongzhao Chen, **Jing Lan**, Xinzhi Teng, Gerald W.Y. Cheng, Zongxi Li, Haoran Xie, Jung Sun Yoo, Jing Cai.*

Selected Projects

Edge-Computing Image Search System
Academic Project
Developed a lightweight image retrieval system deployed on Raspberry Pi.

- Implemented an efficient object detection pipeline using **TensorFlow Lite**, optimizing model size for edge devices.
- Designed a RESTful API for real-time image queries, reducing latency by **30%** compared to cloud-only solutions.
- Tech Stack: Python, TensorFlow Lite, Flask, Raspberry Pi.

Technical Skills

Languages: Python, Rust, Golang, C/C++, SQL, LaTeX

Frameworks & Tools: PyTorch, TensorFlow, RDKit, PyG (PyTorch Geometric), Docker, Git

Research Domains: Drug Repurposing, Protein-Ligand Binding