Lanqing Li

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Personal Profile

- I'm a senior research scientist (T10/T3.2) at Tencent AI Lab, working on machine learning and its applications in drug discovery and autonomous control. Previously I worked as a tech lead at InferVision, a pre-IPO medical AI startup.
- **Homepage**: https://lanqingli1993.github.io/
- **Research Interests**: Machine/Deep Learning, AI-Aided Drug Discovery (AIDD), Robust Machine Learning, Reinforcement Learning, Physics-Informed Machine Learning.

Employment History

Shenzhen Tencent Computer System Co., Ltd. *Shenzhen, China*

Senior Research Scientist, AI Lab *10/2019-Now*

- Co-developed the multi-step retrosynthesis module of iDrug. Independently developed a state-of-the-art model for synthetic accessibility prediction, in collaboration with the American Chemical Society (CAS).
- Led the research and development of the core AI algorithms and greenhouse simulator of the iGrow solution, in collaboration with Wageningen University & Research (WUR).
- Co-mentoring the Tencent AI Lab Rhino-Bird Elite Training Program and Tencent AI Lab Rhino-Bird Focused Research Program, covering topics on deep graph learning, OOD/Long-tailed learning, retrosynthesis, graph generation for molecular de novo design and reinforcement learning.
- Submitted 20+ research papers and patent applications, 8 of which have been published at top conferences/journals.
- Mentor of 1 employee and 20+ interns at the machine learning center.

Infervision Medical Technology Co., Ltd. *Beijing, China*

Tech Lead & Machine Learning Engineer *03/2018-10/2019*

- Led a team of 8 engineers to develop computer-aided detection (CAD) solutions like InferRead Mammo Breast and InferRead CT Coronary.

Academic History

The Chinese University of Hong Kong *08/2022-Now*

Ph.D. Candidate in Computer Science and Engineering

- Supervisor: Prof. Pheng Ann Heng
- Research areas: AI for Drug Discovery, Robust Machine Learning, Reinforcement Learning

The University of Chicago *09/2015-08/2017*

Master of Science (Ph.D. Program) in Physics

- Concentration: Theoretical Biophysics & Computer Vision

Massachusetts Institute of Technology *08/2012-06/2015*

Bachelor of Science in Physics *Major GPA: 4.7/5.0*

- Advised by Prof. Alan Guth, Prof. David Kaiser and Prof. Nevin Weinberg.
- Concentration: Theoretical Cosmology, High Energy Physics

Imperial College London *06/2014-08/2014*

Exchange Student of Summer Research Placement

Peking University *09/2011-06/2012*

Candidate for a Bachelor of Science in Physics *Major GPA: 3.88/4.0*

Selected Publications

1. Han, Z., Liang, Z., Yang, F., Liu L., **Li, L.**, et al. UMIX: Improving Importance Weighting for Subpopulation Shift via Uncertainty-Aware Mixup. NeurIPS 2022.
2. Liu, S., Ying, R., Dong, H., **Li, L.**, Xu, T., Rong, Y., Zhao, P., Huang, J., Wu, D. *Local Augmentation for Graph Neural Networks*. ICML 2022.
3. Gao, C., Xu, K., Zhou, K., **Li, L.**, et al. *Value Penalized Q-Learning for Recommender Systems*. SIGIR 2022.
4. Cao, X., Yao Y., **Li, L.**, et al. *iGrow: A Smart Agriculture Solution to Autonomous Greenhouse Control*. AAAI 2022.
5. **Li, L.**, Yang, R., Luo, D. *FOCAL: Efficient Fully-Offline Meta-Reinforcement Learning via Distance Metric Learning and Behavior Regularization*. ICLR 2021.
6. An, Z., Cao, X., Yao, Y., Zhang, W., **Li, L.**, Wang, Y., Guo, S., and Luo, D. *A Simulator-based Planning Framework for Optimizing Autonomous Greenhouse Control Strategy*. ICAPS 2021.
7. Hertzberg, M. P., Karouby, J., Spitzer, W. G., Becerra, J. C., & **Li, L.** *A Theory of Self-Resonance After Inflation, Part 1: Adiabatic and Isocurvature Goldstone Modes*. Phys. Rev. D 90, 123528 (2014).
8. Hertzberg, M. P., Karouby, J., Spitzer, W. G., Becerra, J. C., & **Li, L.** *A Theory of Self-Resonance After Inflation, Part 2: Quantum Mechanics and Particle-Antiparticle Asymmetry*. Phys. Rev. D 90, 123529 (2014).

Selected Awards

Prize of Sustainable Social Values, Tencent	*2021*
SAIL Award at World Artificial Intelligence Conference - Finalist	*2020*
Distinguished Sachs Fellowship, UChicago	*2015*
Li & Fung Scholarship, MIT	*2014*
Jay Tsun Shaw (1946) Memorial Scholarship, MIT	*2013-2015*
First Prize in Young Physicists Tournaments, Peking University	*2012*
Mingde Scholarship, Peking University	*2011*
Excellent Student Scholarship, Peking University	*2011*
Gold Medalist of International Physics Olympiad	*2011*

- *Ranked 1st in Theory and 5th in Total Score*
- *Prize of Best Score in Theory (Full Marks)*

Academic Service

Reviewer, NeurIPS 2022
Reviewer, ICML 2022
Reviewer, IJCAI-ECAI 2022
Reviewer, IJCAI 2021