

Tianang Leng

✉ ltianang@seas.upenn.edu |  [GitHub](#) |  [Homepage](#) |  [Google Scholar](#)



EDUCATION

University of Pennsylvania

Ph.D. Candidate

Pennsylvania, US

Aug 2024 - May 2030

- **GPA: 4.0/4.0**

- **Research Advisor:** Prof. Cesar de la Fuente-Nunze, Prof. Jacob R. Gardner, and Prof. Mark Yatskar

Huazhong University of Science and Technology (HUST)

Hubei, China

B.E. in Artificial Intelligence, Honor College of Artificial Intelligence

Sept 2020 - June 2024

- **GPA: 3.97/4; Rank: 1/25** (Integrated Bachelor/Master/PhD class selected from 360 students)

- **English Proficiency:** TOEFL 109; GRE 325

RESEARCH INTERESTS

My research goal is to build autonomous AI systems that connect scientific literature and raw biological data with automated experimentation to uncover biological mechanisms and identify therapeutic targets.

- **Scientific Reasoning and Agents:** understanding reasoning in foundation models; building agents that reason over scientific literature and experimental evidence; predicting molecular properties through analogy.
- **Multimodal Molecular Understanding and Generation:** integrating molecular structures, pathogen genomics, and biological knowledge to learn molecular representations and predict and generate molecules with desired biological properties.
- **Laboratory Automation:** developing accessible laboratory automation and connecting AI agents with experimental workflows.

PUBLICATIONS AND PREPRINTS

1. **Tianang Leng***, Joseph Lee*, Haydn Jones, Cesar de la Fuente, Jacob Gardner, Mark Yatskar. “Making Every Experiment Count: Analogical Molecular Property Prediction.” *Preprint*. [Paper]
2. Junyu Zhang*, Yifan Sun*, **Tianang Leng***, Jingyan Shen*, Ziyin Liu[†], Paul Pu Liang[†], Huan Zhang[†], “When Reasoning Meets Its Laws”, in **NIPS 2026, NIPS 2025 Workshop on Efficient Reasoning (Oral, Best Paper Nomination)** [Website]
3. Shoshana C. Williams, Priya Ganesh, **Tianang Leng**, Cesar de la Fuente-Nunez, Eric A. Appel. “Discovery and development of antimicrobial polymers.” In **Nature Chemistry**. *In press*.
4. Xiaoqiong Xia*, **Tianang Leng***, Andrés J. García, Cesar de la Fuente-Nunez. “Machine learning for biomaterials design.” In **Nature Reviews Bioengineering**. [Paper]
5. **Tianang Leng**, Fangping Wan, Marcelo Der Torossian Torres, Cesar de la Fuente-Nunez. “Predicting and generating antibiotics against future pathogens with ApexOracle.” in **NIPS 2025 2nd Workshop on Multi-modal Foundation Models and Large Language Models for Life Sciences**. *Under review at Nature Biotechnology* [arXiv full PDF] [NIPS 2025 FM4LS]
6. **Tianang Leng**, Cesar de la Fuente-Nunez. “AI in biomaterials discovery: generating self-assembling peptides with resource-efficient deep learning.” in **Nature Machine Intelligence** [Link]
7. **Tianang Leng**, Cesar de la Fuente-Nunez. “The gut’s hidden arsenal: A genomics-guided atlas of class II bacteriocins.” In **Cell Genomics** [Link]

8. **Tianang Leng**, Yiming Zhang, Kun Han, Xiaohui Xie. “Self-sampling meta SAM: enhancing few-shot medical image segmentation with meta-learning.” In **WACV 2024** [PDF]
9. Aaron Tu, Weihao Xuan, Heli Qi, Xu Huang, Qingcheng Zeng, Shayan Talaei, Yijia Xiao, Peng Xia, Xiangru Tang, Yuchen Zhuang, Bing Hu, Hanqun Cao, Wenqi Shi, **Tianang Leng**, Rui Yang, Yingjian Chen, Ziqi Wang, Irene Li, Nan Liu, Huaxiu Yao, Li Erran Li, Ge Liu, Amin Saberi, Naoto Yokoya, Jure Leskovec, Yejin Choi, Fang Wu. “Position: The Hidden Costs and Measurement Gaps of Reinforcement Learning with Verifiable Rewards.”, *Under review* [PDF]

HONORS AND AWARDS

- Outstanding Graduate Honor - 2024
- Outstanding Undergraduate Student Award (top 1%) - 2022
- National Scholarship (top 1%) - 2022
- National Scholarship (top 1%) - 2021
- School merit scholarship (top 6%) - 2022, 2021
- The Second Prize of the World Robot Contest-BCI Brain Control Robot Contest - 2021

INVITED TALKS & MEDIA FEATURES

OpenAI — Featured interviewee in “*Accelerating antibiotic discovery with ChatGPT*,” a film featuring the de la Fuente Lab at Penn. [Video & Story]

ApexOracle — invited talk at the OneHealth DataSpace Results Presentation Meeting (CESGA), *Jul 2026*.

ACADEMIC SERVICE

Conference Reviewer

- Conference on Neural Information Processing Systems (NeurIPS) 2025

SKILLS SUMMARY

- **Frameworks** Slime, Megatron-LM, vLLM, LlamaFactory, DeepSpeed, Accelerate, PyTorch, etc.
- **Cluster Manager** Nvidia Bright 9.1, Nvidia Bright 9.2, Nvidia Base Command Manager 10
- **Programming Languages** Python, C/C++, Matlab, SQL, Bash
- **Languages** Chinese, English, Japanese
- **Tools** RDKit, MuJoCo