

# Stanford

---



## Bo Xiong

Postdoctoral Scholar, Biomedical Informatics

### Bio

---

#### BIO

I am a Postdoctoral Scholar in AI for biomedical informatics at Stanford University, under the supervision of Prof. Mark Musen. Prior to that, I received my Ph.D. (with summa cum laude) in computer science at University of Stuttgart, Germany and the Intl. Max Plank Research School for Intelligent Systems (IMPRS-IS), under the supervision of Prof. Steffen Staab. My PhD was funded by the prestigious Marie Curie PhD Fellowship. I was also an associate member of the TrustAGI Lab at Griffith University, Australia, advised by Prof. Shirui Pan.

#### HONORS AND AWARDS

- Best Dissertation Award in Computer Science, University of Stuttgart (2024)
- Publication Prize in 2022, University of Stuttgart (2023)
- Spotlight Scholar, International Max Plan Research School for Intelligent Systems (IMPRS) (2023)
- Best Student Paper Award, International Semantic Web Conference (ISWC) (2022)

#### PROFESSIONAL EDUCATION

- Ph.D., Intl. Max Plank Research School for Intelligent Systems (IMPRS-IS) , Computer Science (2024)
- Ph.D., University of Stuttgart , Computer Science (2024)

#### STANFORD ADVISORS

- Mark Musen, Postdoctoral Faculty Sponsor

#### LINKS

- <https://boxiong.io>: <https://boxiong.io>

### Research & Scholarship

---

#### CURRENT RESEARCH AND SCHOLARLY INTERESTS

AI, Foundation Models, Biomedical Data Science

### Publications

---

#### PUBLICATIONS

- **Towards Expressive Spectral-Temporal Graph Neural Networks for Time Series Forecasting** *IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE*  
Jin, M., Shi, G., Li, Y., Xiong, B., Zhou, T., Salim, F. D., Zhao, L., Wu, L., Wen, Q., Pan, S.

2025; 47 (6): 4926-4939

- **From Tokens to Lattices: Emergent Lattice Structures in Language Models** *International Conference of Learning Representation*  
Xiong, B., Staab, S.  
2025
- **DAGE: DAG Query Answering via Relational Combinator with Logical Constraints**  
He, Y., Xiong, B., Hernandez, D., Zhu, Y., Kharlamov, E., Staab, S., ASSOC COMPUTING MACHINERY  
ASSOC COMPUTING MACHINERY.2025: 2514-2529
- **MaSH: Maximal Separating Poincare Hyperplanes for Hierarchical Imbalanced Learning**  
Xiong, B., Lu, J., Zhu, Y., Yang, C., ACM  
ASSOC COMPUTING MACHINERY.2025: 1431-1435
- **HypMix: Hyperbolic Representation Learning for Graphs with Mixed Hierarchical and Non-hierarchical Structures.** *Proceedings of the ... ACM International Conference on Information & Knowledge Management. ACM International Conference on Information and Knowledge Management*  
Lee, E. W., Xiong, B., Yang, C., Ho, J. C.  
2024; 2024: 3852-3856
- **NestE: Modeling Nested Relational Structures for Knowledge Graph Reasoning**  
Xiong, B., Nayyeri, M., Luo, L., Wang, Z., Pan, S., Staab, S.  
edited by Wooldridge, M., Dy, J., Natarajan, S.  
ASSOC ADVANCEMENT ARTIFICIAL INTELLIGENCE.2024: 9205-9213
- **Enhancing Semantic and Structure Modeling of Diseases for Diagnosis Prediction.** *AMIA ... Annual Symposium proceedings. AMIA Symposium*  
Lv, H., Chen, Z., Yang, Y., Pan, S., Xiong, B., Tan, Y., Yang, C.  
2024; 2024: 758-767
- **Shrinking Embeddings for Hyper-Relational Knowledge Graphs**  
Xiong, B., Nayyeri, M., Pan, S., Staab, S.  
edited by Rogers, A., Boyd-Graber, J., Okazaki, N.  
ASSOC COMPUTATIONAL LINGUISTICS-ACL.2023: 13306-13320
- **HiPrompt: Few-Shot Biomedical Knowledge Fusion via Hierarchy-Oriented Prompting**  
Lu, J., Shen, J., Xiong, B., Ma, W., Staab, S., Yang, C., ACM  
ASSOC COMPUTING MACHINERY.2023: 2052-2056
- **Hyperbolic Graph Neural Networks: A Tutorial on Methods and Applications**  
Zhou, M., Yang, M., Xiong, B., Xiong, H., King, I., ACM  
ASSOC COMPUTING MACHINERY.2023: 5843-5844
- **Reasoning beyond Triples: Recent Advances in Knowledge Graph Embeddings**  
Xiong, B., Nayyeri, M., Daza, D., Cochez, M., ACM  
ASSOC COMPUTING MACHINERY.2023: 5228-5231
- **Pseudo-Riemannian Graph Convolutional Networks**  
Xiong, B., Zhu, S., Potyka, N., Pan, S., Zhou, C., Staab, S.  
edited by Koyejo, S., Mohamed, S., Agarwal, A., Belgrave, D., Cho, K., Oh, A.  
NEURAL INFORMATION PROCESSING SYSTEMS (NIPS).2022
- **Hyperbolic Embedding Inference for Structured Multi-Label Prediction**  
Xiong, B., Cochez, M., Nayyeri, M., Staab, S.  
edited by Koyejo, S., Mohamed, S., Agarwal, A., Belgrave, D., Cho, K., Oh, A.  
NEURAL INFORMATION PROCESSING SYSTEMS (NIPS).2022
- **Faithful Embeddings for  $\epsilon$ -L<sup>+</sup> Knowledge Bases**  
Xiong, B., Potyka, N., Tran, T., Nayyeri, M., Staab, S.  
edited by Sattler, U., Hogan, A., Keet, M., Presutti, Almeida, J. P., Takeda, H., Monnin, P., Pirro, G., DAmato, C.

---

SPRINGER INTERNATIONAL PUBLISHING AG.2022: 22-38

- **Time-aware Entity Alignment using Temporal Relational Attention**

Xu, C., Su, F., Xiong, B., Lehmann, J., ACM

ASSOC COMPUTING MACHINERY.2022: 788-797

- **Ultrahyperbolic Knowledge Graph Embeddings**

Xiong, B., Zhu, S., Nayyeri, M., Xu, C., Pan, S., Zhou, C., Staab, S., ACM

ASSOC COMPUTING MACHINERY.2022: 2130-2139