Yuning You

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RESEARCH FOCUS

Machine learning on structural data (e.g. **graphs** or hypergraphs), with fundamental understanding in theory and applications to real-world problems in **biomedicine**.

EXPERIENCES

Texas A&M University, College Station — Aug 2019 – Present
Ph.D. Candidate in Electrical Engineering
Graduate **Research Assistant** in Department of Electrical and Computer Engineering
Advisors: Prof. Yang Shen & Prof. Zhangyang Wang

Xi'an Jiaotong University, Xi'an — Aug 2015 – Jun 2019
Bachelor of Engineering in Information Engineering

Genentech, Inc., South San Francisco — May 2023 – Aug 2023
Early Clinical Development/AIML **Intern** in Genentech Research and Early Development (gRED)

insitro, Inc., South San Francisco — May 2022 – Aug 2022
ML Small Molecules **Intern** in Department of Data Science and Machine Learning

Amazon.com Services, Inc., Remote — Jun 2021 – Aug 2021
Applied Scientist **Intern** in Product Semantics Team

PUBLICATIONS [Google Scholar]

Preprint'24 [link]: "Correlational Lagrangian Schrödinger Bridge: Learning Dynamics with Population-Level Regularization", **Y. You**, R. Zhou, Y. Shen, *arXiv*, 2024.

MLGenX@ICLR'24 [link]: "Multi-Modal Contrastive Learning for Proteins by Combining Domain-Informed Views", H. Xu, **Y. You**, Y. Shen, *Machine Learning for Genomics Explorations Workshop, International Conference on Learning Representations*, 2024.

ICLR'24 [link]: "Latent 3D Graph Diffusion", **Y. You**, R. Zhou, J. Park, H. Xu, C. Tian, Z. Wang, Y. Shen, *International Conference on Learning Representations*, oprev., 2024. (Acceptance Rate 31.00%)

NeurIPS'23 [link]: "Graph Mixture of Experts: Learning on Large-Scale Graphs with Explicit Diversity Modeling", H. Wang, Z. Jiang, **Y. You**, Y. Han, G. Liu, J. Srinivasa, R. Kompella, Z. Wang, *Conference on Neural Information Processing Systems*, pp. 50825-50837, 2023. (Acceptance Rate 26.10%)

Preprint'23 [link]: "Critical Assessment of Variant Prioritization Methods for Rare Disease Diagnosis within the Rare Genomes Project", ..., **Y. You**, ..., *medRxiv*, 2023.

DEBULL'23 [link]: "Graph Contrastive Learning: An Odyssey towards Generalizable, Scalable and Principled Representation Learning on Graphs", Y. Han, **Y. You**, W. Zheng, S. Hoang, T. Wei, M. Hassan, T. Chen, Y. Ding, Y. Shen, Z. Wang, *IEEE Data Engineering Bulletin*, vol. 47(2), pp. 80-95, 2023. (Invited Article)

ICLR'23 [link]: "Graph Domain Adaptation via Theory-Grounded Spectral Regularization", **Y. You**, T. Chen, Z. Wang, Y. Shen, *International Conference on Learning Representations*, oprev., 2023. (Acceptance Rate 31.80%)

MLSB@NeurIPS'22 [link]: "Does Inter-Protein Contact Prediction Benefit from Multi-Modal Data and Auxiliary Tasks?", A. Talukder, R. Yin, Y. Sun, Y. Shen, **Y. You**, *Machine Learning for Structural Biology Workshop, Conference on Neural Information Processing Systems*, 2022.

NeurIPS'22 [link]: "Augmentations in Hypergraph Contrastive Learning: Fabricated and Generative", T. Wei*, **Y. You***, T. Chen, Y. Shen, J. He, Z. Wang, *Conference on Neural Information Processing Systems*, pp. 1909-1922, 2022. (*Equal Contribution, Acceptance Rate 25.60%)

Bioinformatics'22 [link]: "Cross-Modality and Self-Supervised Protein Embedding for Compound-Protein Affinity and Contact Prediction", **Y. You**, Y. Shen, *Bioinformatics*, vol. 38(supp2), pp. 68-74, 2022. (Impact Factor 6.93, MoML'22, ECCB'22 with Acceptance Rate 17.40%, 3DSIG COSI@ISMB /ECCB'21, MLSB@NeurIPS'20)

ICLR'22 [link]: "Bayesian Modeling and Uncertainty Quantification for Learning to Optimize: What, Why, and How", **Y. You**, Y. Cao, T. Chen, Z. Wang, Y. Shen, *International Conference on Learning Representations*, oprev., 2022. (Acceptance Rate 32.29%)

WSDM'22 [link]: "Bringing Your Own View: Graph Contrastive Learning without Prefabricated Data Augmentations", **Y. You**, T. Chen, Z. Wang, Y. Shen, *ACM International Conference on Web Search and Data Mining*, pp. 1300-1309, 2022. (Acceptance Rate 20.22%)

ICML'21 Long Presentation [link]: "Graph Contrastive Learning Automated", **Y. You**, T. Chen, Y. Shen, Z. Wang, *International Conference on Machine Learning*, pp. 12121-12132, 2021. (Acceptance Rate 3.01%)

TVT'21 [link]: "Probabilistic Constructive Interference Precoding for Imperfect CSIT", G. Lyu, **Y. You**, A. Li, X. Liao, C. Masouros, *IEEE Transactions on Vehicular Technology*, vol. 70(4), pp. 3932-3937, 2021. (Impact Factor 5.97)

KDF@AAAI'21 Oral [link]: "AR-Stock: Deep Augmented Relational Stock Prediction", T. Wei, **Y. You**, T. Chen, *Knowledge Discovery from Unstructured Data in Financial Services Workshop, Association for the Advancement of Artificial Intelligence Conference*, 2021.

NeurIPS'20 [link]: "Graph Contrastive Learning with Augmentations", **Y. You***, T. Chen*, Y. Sui, T. Chen, Z. Wang, Y. Shen, *Conference on Neural Information Processing Systems*, pp. 5812-5823, 2020. (*Equal Contribution, Acceptance Rate 20.09%)

ICML'20 [link]: "When Does Self-Supervision Helps Graph Convolutional Networks?", **Y. You***, T. Chen*, Z. Wang, Y. Shen, *International Conference on Machine Learning*, pp. 10871-10880, 2020. (*Equal Contribution, Acceptance Rate 21.80%)

CVPR'20 [link]: "L^2-GCN: Layer-Wise and Learned Efficient Training of Graph Convolutional Networks", **Y. You***, T. Chen*, Z. Wang, Y. Shen, *IEEE/CVF Conference on Computer Vision and Pattern Recognition*, pp. 2127-2135, 2020. (*Equal Contribution, Acceptance Rate 22.08%)

IPAS'18 [link]: "An Optimization Approach of Compressive Sensing Recovery Using Split Quadratic Bregman Iteration with Smoothed ℓ_0 Norm", G. Yang, **Y. You**, Z. Lu, J. Yang, Y. Wang, *IEEE International Conference on Image Processing, Applications and Systems*, pp. 226-231, 2018.

AWARDS

ECEN Quality Graduate Student Award, Texas A&M University, Department of Electrical and Computer Engineering (5 Awardees). Apr 2023

NSF Student Travel Awards, ACM International Conference on Web Search and Data Mining. Dec 2021

Chevron Scholarship, Texas A&M University, Department of Electrical and Computer Engineering. Sep 2021

Electrical and Computer Engineering PhD Merit Fellowship, Texas A&M University, Department of Electrical and Computer Engineering. Feb 2019

TALKS

Texas A&M University, Prof. James Cai's Group, online. Oct 2023

Genentech, Inc., Spatial Omics Journal Club, online. Aug 2023

AstraZeneca plc, AI&A Journal Club, online. Mar 2022

University of Texas at Austin, Prof. Mingyuan Zhou's Group, online. Oct 2021

Technical University of Munich, Learning on Graphs and Geometry Reading Group (LoGaG), online. Aug 2021

ISMB/ECCB'21, COSI: Structural Bioinformatics and Computational Biophysics (3DSIG), online. [video] Jul 2021

ICML'21, Session of Semisupervised and Unsupervised Learning, online. [video] Jul 2021

SERVICES

Session Chair of Semisupervised and Unsupervised Learning at ICML'21.

Reviewer in Conferences of ICML'21-23, NeurIPS'21-23, ICLR'22,24, WWW'22, LoG'22, ISMB/ECCB'21,23-24, ACM-BCB'21,23; Journals of TPAMI'21,23, TMLR'23, TNNLS'21-23, TKDE'22, TAI'22, INS'21, PeerJ'21, NEPL'21, JCST'22, SIPN'22, INFFUS'23, JBS'23.