

一、照片



二、个人简介

中文介绍：

张文涛于 2022 年从北京大学计算机学院获得博士学位，研究兴趣为大规模图学习。他共发表了 CCF A 类论文 20 多篇，以第一作者在机器学习（ICML, NeurIPS, ICLR）、数据挖掘（KDD, WWW）和数据库（SIGMOD, VLDB, ICDE）等领域发表论文 15 篇，含中国第 2 篇 WWW 最佳学生论文和多篇 NeurIPS Spotlight 论文。他主导或参与开源了多个机器学习系统，如大规模图学习系统 SGL 和分布式机器学习系统 Angel，相关系统已在腾讯得到广泛应用。他曾获 2021 年亚太地区唯一 Apple Scholar、北京大学优秀博士学位论文奖、腾讯年度开源协同创新奖和数博会领先科技成果奖等。

个人主页：<https://zwt233.github.io>

英文介绍：

Wentao Zhang received his Ph.D. degree in computer science from [Peking University](#) in June 2022, supervised by Prof. [Bin Cui](#). And he worked with Prof. [Lei Chen](#) as a visiting scholar at [HKUST](#) in 2019. Besides, Wentao has accumulated for more than 3 years industrial experience in [Tencent](#) and [Apple Research](#).

Motivated by the industrial demand, his research focuses on large-scale graph learning from three perspectives – data, model, and system. Wentao has published 20+ papers, including 10+ first author papers in the top DB (SIGMOD, VLDB, ICDE), DM (KDD, WWW) and ML (ICML, NeurIPS, ICLR) venues. Besides, he is the contributor or designer of several system projects, including [Angel](#), [SGL](#), [MindWare](#), and [OpenBox](#). His research works on large-scale graph learning have been powering several billion-scale applications in Tencent, and some of them have been recognized by multiple prestigious awards, including the [Outstanding Doctoral Dissertation Award](#), and the [Best Student Paper Award](#) at WWW'22.

Homepage: <https://zwt233.github.io>

三、报告题目

Towards Automated Graph Machine Learning 《自动化图机器学习》

四、报告摘要

图神经网络模型在多个图学习任务上都取得了最佳效果,并受到了学术界和工业界的广泛关注。然而,针对给定任务设计图神经网络需要经验丰富的专家,建模成本很高。自动化图学习被提出解决这一问题,但现有的工作更多聚焦于搜索算法上的创新,在搜索空间上存在搜索深度较小、不够灵活以及可扩展性低等问题。因此,本次分享讲首先通过大量实验评测分析制约图神经网络深度的根本原因(KDD' 22),并基于此提出了一个深层且灵活的图神经结构搜索空间(ICML' 22)。接着,将介绍一个可扩展的图神经结构搜索系统 PaSca(WWW' 22 Best Student Paper)以及大规模图学习系统 SGL(<https://github.com/PKU-DAIR/SGL/>)。最后,也会分享作者在计算机研究生科研上的一些个人经验和感悟。

五、Highlight

- 1、图神经网络做不深的根本原因不是 Over-smoothing?
- 2、Propagation 和 Transformation 操作分别会对 GNN 产生哪些影响?
- 3、将 GNN 运用到工业界大规模图数据上面临着哪些挑战?
- 4、如何自动化设计预测性能好且资源占用少的 GNN 模型?
- 5、研究生科研该如何入门?

六、参考文献

- [1] Model Degradation Hinders Deep Graph Neural Networks. Wentao Zhang, Zeang Sheng, et al. *KDD 2022*.
- [2] Deep and Flexible Graph Neural Architecture Search. Wentao Zhang, Zheyu Lin, et al. *ICML 2022*.
- [3] PaSca: a Graph Neural Architecture Search System under the Scalable Paradigm. Wentao Zhang, Yu Shen, et al. *WWW 2022*.