
FCS 文章精要 南京大学胡伟等：基于增量多源数据融合的异构图缺失数据恢复

作者：writer 来源：科学网

本文原地址：<https://www.iikx.com/news/progress/37129.html>

本文仅供学习交流之用，版权归原作者所有，请勿用于商业用途！

FCS 文章精要

南京大学胡伟等：基于增量多源数据融合的异构图缺失数据恢复。论文标题：Missing data recovery for heterogeneous graphs with incremental multi-source data fusio

期刊：Frontiers of Computer Science

作者：Yang LIU, Xiaoxia JIANG, Yuanning CUI, Yu WANG, Wei HU

发表时间：21 Apr 2025

DOI：10.1007/s11704-025-41420-2

微信链接：[点击此处阅读微信文章](#)

RESEARCH ARTICLE

Missing data recovery for heterogeneous graphs with incremental multi-source data fusion

Yang LIU^{1,2}, Xiaoxia JIANG², Yuanning CUI¹, Yu WANG^{3,2}, Wei HU¹✉

1. State Key Laboratory for Novel Software Technology, Nanjing University, Nanjing 210023, China

2. National Key Laboratory of Information Systems Engineering, Nanjing 210023, China

3. School of Computer Science and Engineering, Nanjing University of Science and Technology, Nanjing 210094, China

Received December 27, 2024; accepted April 21, 2025

E-mail: whu@nju.edu.cn

Special Issue—Data Governance and Circulation for Data Factors

© Higher Education Press 2025

引用格式：

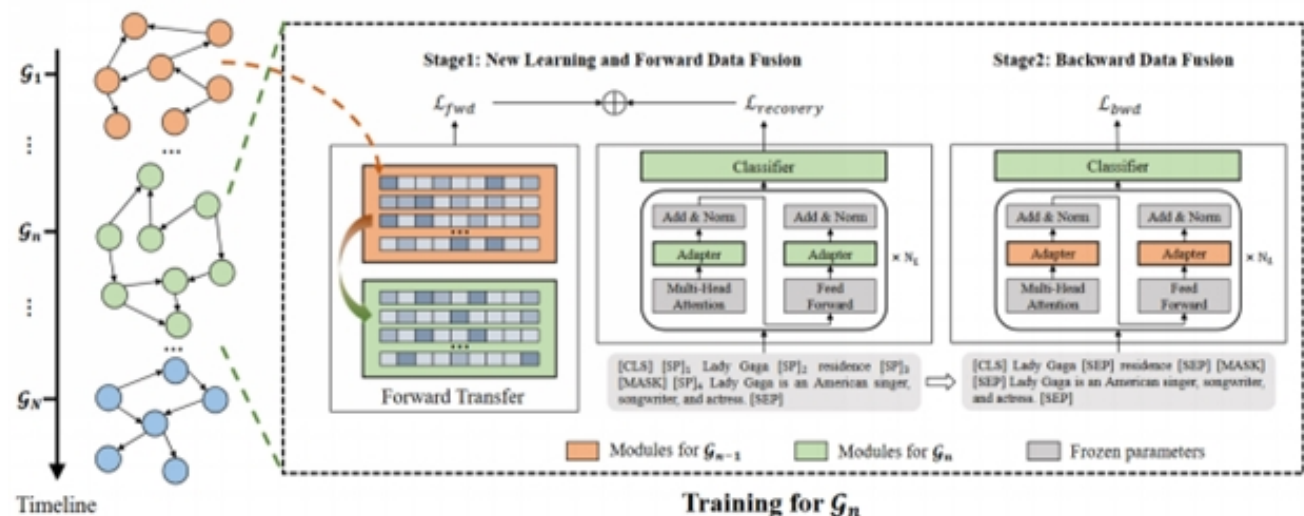
阅读原文：



文章概述

异构图通过节点和边组织数据，广泛应用于各类以图为核心的应用中。然而在人工构建过程中，部分数据常常被遗漏，导致图中信息缺失，从而影响下游任务的性能。现有方法通常仅依赖单个图中已有的数据进行缺失恢复，忽略了来自不同来源的图由于范围重叠而可能共享部分节点的事实。

为了解决上述问题，本文聚焦于增量场景下的多源异构图缺失数据恢复任务，提出了一种新颖的框架，通过融合历史图中补充性的信息，有效实现对新图中缺失数据的恢复。



Framework of the proposed model SIKE for source-incremental missing data recovery

在本项研究中，研究团队提出了一个名为SIKE的模型，结合了预训练语言模型和图特定的适配器。为充分利用多源图之间的互补信息，他们进一步设计了一种基于嵌入的跨图数据融合方法，实现图间信息的有效整合。

在实验评估方面，团队构建了两个来自真实场景的异构图数据集—DWY15K和CFW。实验结果表明，所提出模型在这两个数据集上均优于现有方法。与最具竞争力的基线模型EWC相比，SIKE在DWY15K上的MRR提高了7.79%，在CFW上提升了10.25%。这些结果验证了所提方法在增量异构图数据恢复任务中的有效性，并为多源数据融合在数据治理中的应用提供了新的启发。

The advertisement for Frontiers of Computer Science (FCS) features the journal cover on the left, the title 'Frontiers of Computer Science' in a large blue font, and the 2024 Impact Factor (IF) of 4.6. Below the title, it lists key features: 'Fast and high quality peer review', 'Rapid publication upon acceptance', and 'Fast Track of Revised Top Conference Submission'. It also mentions indexing services: 'SCI (E), EI', 'CCF B', and 'Scopus, DBLP, INSPEC'. The 'Paper types' section includes 'Perspective/News&Highlights', 'Review/Viewpoints', 'Research Article', and 'Letter/Others'. The 'Subject areas' section lists 'Architecture', 'Software', 'Artificial intelligence', 'Theoretical computer science', 'Networks and communication', 'Information systems', 'Image and graphics', 'Information security', and 'Interdisciplinary'. The editorial board is presented in two rows: the first row includes the Editor-in-Chief (周志华, Nanjing University) and Co-Editors-in-Chief (熊璋, Beijing University of Aeronautics and Astronautics; 许可, Beijing University of Aeronautics and Astronautics; 周磊, Zhejiang University); the second row lists the Executive Editors (陈为, Zhejiang University; 高跃, Beijing University of Aeronautics and Astronautics; 廖小飞, Tsinghua University; 童峰新, Beijing University of Aeronautics and Astronautics; 张健, Chinese Academy of Sciences; 张敬灵, East China University of Science and Technology; 仲盛, Beijing University). At the bottom, it provides the online submission website (https://mc.manuscriptcentral.com/hepfc), contact information (Tel: +86(10) 8233 8176, E-mail: FCS@pub.hep.cn), QR codes for WeChat and Weibo, and logos for Higher Education Press, Beihang University, Nanjing University, and Springer.

中国学术前沿期刊网

<http://journal.hep.com.cn>

来源：Frontiers of Computer Science

更多 科学进展 请访问 <https://www.iikx.com/news/progress/>

本文版权归原作者所有，请勿用于商业用途，[爱科学iikx.com](http://www.iikx.com)转发