2022 年顶会顶刊图神经网络论文&代码合集

1. **Graph neural network for traffic forecasting: A survey**

代码：https://github.com/jwwthu/GNN4Traffic

期刊：Expert Systems with Applications(2022)

2. **Improving graph neural network expressivity via subgraph isomorphism counting**

代码：https://github.com/gbouritsas/graph-substructure-networks

期刊：IEEE Transactions on Pattern Analysis and Machine Intelligence (2022)

3. **Deep hybrid: multi-graph neural network collaboration for hyperspectral image classification**

期刊：Defence Technology (2022).

4. **Federated social recommendation with graph neural network**

期刊：ACM Transactions on Intelligent Systems and Technology

5. **Multiphysical graph neural network (MP-GNN) for COVID-19 drug design**

期刊：Briefings in Bioinformatics(2022)

6. **GRIP: A graph neural network accelerator architecture**

期刊：IEEE Transactions on Computers (2022)

7. **ByteGNN: efficient graph neural network training at large scale**

期刊：Proceedings of the VLDB Endowment (2022)

8. **Dstagnn: Dynamic spatial-temporal aware graph neural network for traffic flow forecasting**

会议：ICML 2022

9. **Data-augmentation for graph neural network learning of the relaxed**

energies of unrelaxed structures

期刊：npj Computational Materials (2022)

10. ConGNN: Context-consistent cross-graph neural network for group emotion recognition in the wild

期刊：Information Sciences(2022)

11. A Self-supervised Mixed-curvature Graph Neural Network

会议：AAAI 2022

12. Explainability in graph neural networks: A taxonomic survey

期刊：IEEE Transactions on Pattern Analysis and Machine Intelligence (2022).

13. Graphlime: Local interpretable model explanations for graph neural networks

代码：https://github.com/riken-aip/pyHSICLasso

期刊：IEEE Transactions on Knowledge and Data Engineering (2022).

14. Graph neural networks in network neuroscience

代码：https://github.com/basiralab/GNNs-in-Network-Neuroscience

期刊：IEEE Transactions on Pattern Analysis and Machine Intelligence (2022).

15. Self-supervised learning of graph neural networks: A unified review

期刊：IEEE Transactions on Pattern Analysis and Machine Intelligence (2022).

16. Protgnn: Towards self-explaining graph neural networks

会议：AAAI 2022

17. Graph neural networks for recommender system

代码：https://github.com/dmlc/dgl/tree/master/examples/pytorch/pinsage

会议：WSDM 2022

18. A machine learning approach for predicting hidden links in supply chain with graph neural networks

期刊：International Journal of Production Research(2022):

19. My house, my rules: Learning tidying preferences with graph neural networks

会议：CoRL 2022

20. **Cf-gnnexplainer: Counterfactual explanations for graph neural networks**

代码：https://github.com/a-lucic/cf-gnnexplainer

会议：AISTATS 2022

21. **Graph neural networks**

图书：Graph Neural Networks: Foundations, Frontiers, and Applications

22. **Model Inversion Attacks against Graph Neural Networks**

期刊：IEEE Transactions on Knowledge and Data Engineering (2022).

23. **Probing the rules of cell coordination in live tissues by interpretable machine learning based on graph neural networks**

期刊：PLoS computational biology(2022)

24. **Graph neural networks for particle tracking and reconstruction**

期刊：Artificial intelligence for high energy physics

25. **Deep reinforcement learning meets graph neural networks: Exploring a routing optimization use case**

代码：https://github.com/knowledgedefinednetworking/DRL-GNN

期刊：Computer Communications (2022).

26. **Understanding pooling in graph neural networks**

代码：https://github.com/danielegrattarola/src

期刊：IEEE Transactions on Neural Networks and Learning Systems (2022).

27. **Discovering invariant rationales for graph neural networks**

代码：https://github.com/wuyxin/dir-gnn

会议：ICLR 2022

28. **AEGNN: Asynchronous Event-based Graph Neural Networks**

代码：https://uzh-rpg.github.io/aegnn/

会议：CVPR 2022

29. **Learning graph normalization for graph neural networks**

代码：https://github.com/cyh1112/GraphNormalization

期刊：Neurocomputing2022)

30. **Orphicx: A causality-inspired latent variable model for interpreting graph neural networks**

代码：https://github.com/wanyugroup/cvpr2022-orphicx

会议：CVPR 2022

31. **Lunar: Unifying local outlier detection methods via graph neural networks**

代码：https://github.com/agoodge/lunar

会议：AAAI 2022

32. **Rice: Refining instance masks in cluttered environments with graph neural networks**

代码：https://github.com/chrisdxie/rice

会议：CoRL 2022

33. **Graph neural controlled differential equations for traffic forecasting**

代码：https://github.com/jeongwhanchoi/STG-NCDE

会议：AAAI 2022

34. **Heterogeneous global graph neural networks for personalized session-based recommendation**

代码：https://github.com/0215arthur/hg-gnn

会议：WSDM 2022

35. **Perovskite synthesizability using graph neural networks**

期刊：npj Computational Materials(2022)

36. **MetaLearning with Graph Neural Networks: Methods and Applications**

期刊：ACM SIGKDD Explorations Newsletter(2022)

37. **ZORRO: Valid, Sparse, and Stable Explanations in Graph Neural Networks**

代码：https://github.com/funket/zorro

期刊：IEEE Transactions on Knowledge and Data Engineering (2022).

38. Combinatorial optimization with physics-inspired graph neural networks

代码：https://github.com/amazon-research/co-with-gnns-example

期刊：Nature Machine Intelligence(2022):

39. Dynamic graph neural networks for sequential recommendation

代码：https://github.com/ZM7/DGSR

期刊：IEEE Transactions on Knowledge and Data Engineering (2022).

40. OOD-GNN: Out-of-distribution generalized graph neural network

代码：https://github.com/tencent-ailab/DrugOOD

期刊：IEEE Transactions on Knowledge and Data Engineering (2022).

41. On positional and structural node features for graph neural networks on non-attributed graphs

代码：https://github.com/zjzijielu/gnn-positional-structural-node-features

会议：CIKM 2022

42. Adaptive kernel graph neural network

代码：https://github.com/jumxglhf/akgnn

会议：AAAI 2022

43. Learning decentralized wireless resource allocations with graph neural networks

期刊：IEEE Transactions on Signal Processing(2022):

44. GNNRank: Learning global rankings from pairwise comparisons via directed graph neural networks

代码：https://github.com/sherylhyx/gnnrank

会议：ICML 2022

45. Bag of tricks for training deeper graph neural networks: A comprehensive benchmark study

代码：https://github.com/VITA-Group/Deep_GCN_Benchmarking

期刊：IEEE Transactions on Pattern Analysis and Machine Intelligence (2022).

46. User Cold-start Recommendation via Inductive Heterogeneous Graph Neural Network

期刊：ACM Transactions on Information Systems(2022).

47. Edits: Modeling and mitigating data bias for graph neural networks

代码：https://github.com/yushundong/edits

会议：WWW 2022

48. E-GraphSAGE: A Graph Neural Network based Intrusion Detection System for IoT

代码：https://github.com/waimorris/E-GraphSAGE

会议：NOMS 2022

49. Orthogonal graph neural networks

代码：https://github.com/KaiGuo20/Ortho-GConv

会议：AAAI 2022

50. Graph neural network for cell tracking in microscopy videos

代码：https://github.com/talbenha/cell-tracker-gnn

会议：ECCV 2022

51. Hierarchical representations and explicit memory: Learning effective navigation policies on 3D scene graphs using graph neural networks

代码：https://github.com/mit-tesse/dsg-rl

会议：ICRA 2022

52. Physics-informed graph neural Galerkin networks: A unified framework for solving PDE-governed forward and inverse problems

期刊：Computer Methods in Applied Mechanics and Engineering(2022)

53. Linkteller: Recovering private edges from graph neural networks via influence analysis

会议：IEEE Symposium on Security and Privacy 2022

54. **Energy-weighted message passing: an infra-red and collinear safe graph neural network algorithm**

期刊：Journal of High Energy Physics

55. **Gnn-retro: Retrosynthetic planning with graph neural networks**

期刊：AAAI 2022

56. **Graph neural networks for multimodal single-cell data integration**

代码：https://github.com/omicsml/dance

会议：KDD 2022

57. **DeepDDS: deep graph neural network with attention mechanism to predict synergistic drug combinations**

代码：https://github.com/Sinwang404/DeepDDs

期刊：Briefings in Bioinformatics(2022)

58. **Imbalanced graph classification via graph-of-graph neural networks**

代码：https://github.com/yuwvandy/g2gnn

会议：CIKM 2022

59. **LISA: Graph Neural Network based Portable Mapping on Spatial Accelerators**

会议：HPCA 2022

60. ***Learning general optimal policies with graph neural networks: Expressive power, transparency, and limits***

会议：AAAI 2022

61. **Inference attacks against graph neural networks**

代码：https://github.com/zhangzhk0819/gnn-embedding-leaks

会议：USENIX Security Symposium 2022

62. **E (3)-equivariant graph neural networks for data-efficient and accurate interatomic potentials**

期刊：Nature communications(2022)

63. **Learning and evaluating graph neural network explanations based on counterfactual and factual reasoning**

代码：https://github.com/chrisjtan/gnn_cff

会议：WWW 2022

64. Towards robust graph neural networks for noisy graphs with sparse labels

代码：https://github.com/enyandai/rsgnn

会议：WSDM 2022

65. Efficient and interpretable robot manipulation with graph neural networks

期刊：IEEE Robotics and Automation Letters(2022)

66. Graph neural networks: A review of methods and applications

代码：https://github.com/thunlp/GNNPapers

期刊：AI Open(2020)

67. A comprehensive survey on graph neural networks

代码：https://github.com/GustikS/NeuraLogic

期刊：IEEE transactions on neural networks and learning systems(2020)

68. Towards deeper graph neural networks

代码：https://github.com/divelab/DeeperGNN

会议：KDD 2022

69. Superglue: Learning feature matching with graph neural networks

代码：https://github.com/magicleap/SuperGluePretrainedNetwork

会议：CVPR 2020

70. Generalization and representational limits of graph neural networks

会议：ICML 2020

71. Graph neural networks with convolutional arma filters

代码：https://github.com/dmlc/dgl/tree/master/examples/pytorch/arma

期刊：IEEE Transactions on Pattern Analysis and Machine Intelligence (2021).

72. Magnn: Metapath aggregated graph neural network for heterogeneous graph embedding

代码：https://github.com/cynricfu/MAGNN

会议：WWW 2020

73. Gcc: Graph contrastive coding for graph neural network pre-training

代码：https://github.com/THUDM/GCC

会议：KDD 2020

74. Spectral clustering with graph neural networks for graph pooling

代码：https://github.com/FilippoMB/Spectral-Clustering-with-Graph-Neural-Networks-for-Graph-Pooling

会议：ICML 2020

75. Beyond homophily in graph neural networks: Current limitations and effective designs

代码：https://github.com/GemsLab/H2GCN

期刊：Advances in Neural Information Processing Systems(2020)

76. Measuring and relieving the over-smoothing problem for graph neural networks from the topological view

会议：AAAI 2020

77. Graph neural networks in recommender systems: a survey

代码：https://github.com/wusw14/gnn-in-rs

期刊：ACM Computing Surveys (CSUR) (2020).

78. Graph neural networks in particle physics

期刊：Machine Learning: Science and Technology(2020)

79. E (n) equivariant graph neural networks

代码：https://github.com/lucidrains/egnn-pytorch

会议：ICML 2021

80. Stability properties of graph neural networks

期刊：IEEE Transactions on Signal Processing(2020)

81. Xgnn: Towards model-level explanations of graph neural networks

期刊：KDD 2020

82. Design space for graph neural networks

代码：https://github.com/snap-stanford/graphgym

期刊：Advances in Neural Information Processing Systems(2020)

83. Graph structure learning for robust graph neural networks

代码：https://github.com/DSE-MSU/DeepRobust

会议：KDD 2020

84. Parameterized explainer for graph neural network

代码：https://github.com/flyingdoog/PGExplainer

会议：NeurIPS 2020

85. Can graph neural networks count substructures?

代码：https://github.com/leichen2018/GNN-Substructure-Counting

会议：NeurIPS 2020

86. Data augmentation for graph neural networks

代码：https://github.com/zhao-tong/GAug

会议：AAAI 2021

87. Graph neural networks in TensorFlow and keras with spektral

代码：https://github.com/danielegrattarola/spektral

期刊：IEEE Computational Intelligence Magazine(2021):

88. On explainability of graph neural networks via subgraph explorations

代码：https://github.com/divelab/DIG/tree/main/dig/xgraph/SubgraphX

会议：ICML 2021

89. The logical expressiveness of graph neural networks

会议：ICLR 2020

90. Streaming graph neural networks

代码：https://github.com/alge24/DyGNN

会议：SIGIR 2020

91. **Improving the accuracy, scalability, and performance of graph neural networks with roc**

期刊：Proceedings of Machine Learning and Systems(2020)

92. **Multipole graph neural operator for parametric partial differential equations**

代码：https://github.com/zongyi-li/graph-pde

会议：NeurIPS 2020

93. **Improved code summarization via a graph neural network**

代码：https://github.com/acleclair/ICPC2020_GNN

会议：ICPC 2020

94. **Point-gnn: Graph neural network for 3d object detection in a point cloud**

代码：https://github.com/WeijingShi/Point-GNN

会议：CVPR 2020

95. **Gpt-gnn: Generative pre-training of graph neural networks**

代码：https://github.com/acbull/GPT-GNN

会议：KDD 2020

96. **Connecting the dots: Multivariate time series forecasting with graph neural networks**

代码：https://github.com/nnzhan/MTGNN

会议：KDD 2020

97. **Scaling graph neural networks with approximate pagerank**

代码：https://github.com/TUM-DAML/pprgo_tensorflow

会议：KDD 2020

98. **RouteNet: Leveraging Graph Neural Networks for network modeling and optimization in SDN**

代码：https://github.com/knowledgedefinednetworking/demo-routenet

会议：IEEE Journal on Selected Areas in Communications(2020)

99. **Could graph neural networks learn better molecular representation for drug discovery? A comparison study of descriptor-based and graph-based models**

期刊：Journal of cheminformatics(2021)

100. **scGNN is a novel graph neural network framework for single-cell RNA-Seq analyses**

期刊：Nature communications(2021)