

ment Kernel PS-OA -- 2013 • GE-OA -- 2015 • TAK -- 2015 Hierarchical

Optimal Assign-

Clustering

- DLCN -- 2014 GraphCNN -- 2015
- **MPNNs**
 - Fingerprint 2015 GraphSim -- 2016
- **Shortest Path** Kernel
- SPK-DS -- 2017

2012

Message Passing Kernel

- Global-WL 2017
- P-WL-- 2019

Deterministic Graph Embedding

- FGSD -- 2017
- AWE -- 2018
- LDP -- 2019

Hierarchical Top K

- SHGC -- 2018
- U-nets -- 2019
- SAGPool -- 2019

Kernel-Based GL-**GNNs**

- GNTK -- 2019
- DDGK -- 2019

MPNNs

- GIN -- 2019
- K-GNN -- 2019
- PPGN -- 2019 RP -- 2019

• GSN -- 2020 G

2020

- GNN-AK -- 2021

GL-GNNs

Deterministic

• SlaQ -- 2020

VNGE -- 2021

GNNs

• GCKN -- 2020

• RWNN -- 2020

GraphCL -- 2020

• GCC - 2020

MVGRL - 2020

• JOAO -- 2021

InfoGraph -- 2020

• GSKN - 2021

A-DOGE -- 2021

Graph Embedding

Kernel-Based GL-

Contrastive-Based

Subgraph-Based

- NGNN 2021
- GraphSNN 2021 • SUGAR -- 2021
- ESAN -- 2021

- FSG -- 2001
- gSpan -- 2002
- **Shortest Path** Kernel
- SPK -- 2005

2010

Message Passing Kernel

- NHK -- 2009
- WL -- 2011

Subgraph Kernel

- Graphlet -- 2009
- NSPDK -- 2010
- SMK -- 2012

2014

Spectral-Based

ChebNet -- 2016

MPNNs

2016

- MPNN -- 2017
- DTNN -- 2017

Global Attention



Set2Set -- 2016

Hierarchical Tree

MoNet -- 2017

CapsNet-Based

- GCAPS-CNN 2016
- **GAPsGNN -- 2016**
- PATCHYCaps 2017

CNN-Based

- PATCHYSAN 2016
- DCNN -- 2016
- ECC -- 2017
- KCNN 2018

Learnable **Graph Embedding**

- Subgraph2Vec 2016
- Graph2Vec -- 2017
- GE-FSG -- 2018

2018

Hierarchical Clustering

- DiffPool -- 2018
- StructPool -- 2020
- MinCutPool 2020

Global Numeric

- PNA -- 2020
- TextING 2020
- SOPOOL -- 2020

Hierarchical Top K

ASAP -- 2020

Global **Attention**

• GMT -- 2020

Global Top K

• GSAPool -- 2020

Global Top K

SortPool -- 2018

RNN-Based D

- GGNN -- 2016
- GAM -- 2018
- SAN -- 2018
- NetGAN 2018
- GraphRNN 2018

2022

MPNNs

- FGNN -- 2021
- SWL -- 2021
- CWN 2021
- CLIP -- 2021 RNI -- 2021
- KMPNN -- 2022

Spectral-**Based**

- GNNTFS -- 2021
- GNNML -- 2021
- ARMA -- 2021 UFG -- 2021



• HRN -- 2022