1 ) <https://medium.com/octavian-ai/finding-shortest-paths-with-graph-networks-807c5bbfc9c8>

combining attention read and write with a graph network for Railway network used RNN

like he Given the question “How many stations are between station 1 and station 15” and a rail network, we’d like the correct answer, e.g. “6”.

2) "A Neural Network for Shortest Path Computation" by Filipe Araújo, Bernardete Ribeiro, and Luís Rodrigues (https://repositorio.ul.pt/bitstream/10451/14147/1/00-2.pdf)

Using dvhnn (Dependent Variables Hopfield Neural Network) applied on a directed gragh dataset

Able to produce slightly lower quality than dijkstra’s algo

3) Neural Network for Optimization of Routing in Communication Networks

(https://www.researchgate.net/publication/228564349\_Neural\_Network\_for\_Optimization\_of\_Routing\_in\_Communication\_Networks)

Just paralises the processing of neural networks and trained a neural network to learn routing optimal paths and traffic patterns

4) Deeply Learning Molecular Structure-Property Relationships Using Attention- and Gate-Augmented Graph Convolutional Network (https://arxiv.org/pdf/1805.10988)

Adds attention and gated skip connections to GCN

He did it on chemical data that is for atoms and bonds

5) DeepPath: A Reinforcement Learning Method for Knowledge Graph Reasoning

(<https://sites.cs.ucsb.edu/~william/papers/DeepPath.pdf>)

Used rl for knowledge graph that is for link prediction and fact prediction in a knowledge graph

6) A new methodology for the optimal design of series pipe systems (<https://iwaponline.com/jh/article/18/5/757/3572/A-new-methodology-for-the-optimal-design-of-series>)

For designing the pipe system

7). Optimal design of a series of reservoirs for water supply systems ( <https://link.springer.com/article/10.1007/s11269-017-1843-y>)

Used Genetic Algorithm with Heuristic Programming

 And for the optimal design of sewer networks

2024:-

8) Optimal design of series of pipes in sewer systems including pumping stations for flat terrains(<https://www.tandfonline.com/doi/full/10.1080/1573062X.2024.2329086>)

Nodes are generated for each manhole with possible diameter and invert elevation combinations basically setting up (designing)

9) Efficiency Improvement to Neural-Network-Driven Optimal Path Planning via Region and Guideline Prediction(<https://ieeexplore.ieee.org/abstract/document/10382594>)

Uses CNN as takes image extract features using resnet50 multi scale conv

10) Trajectory Planning for Autonomous Driving in Unstructured Scenarios Based on Graph Neural Network and Numerical Optimization (<https://arxiv.org/pdf/2406.08855>)

Adds feature extraction and fuses features through multiple layers  
 beats A\* in planning time and efficiency

Doubts – the actual drainage system would be complex so how can we take source node array