

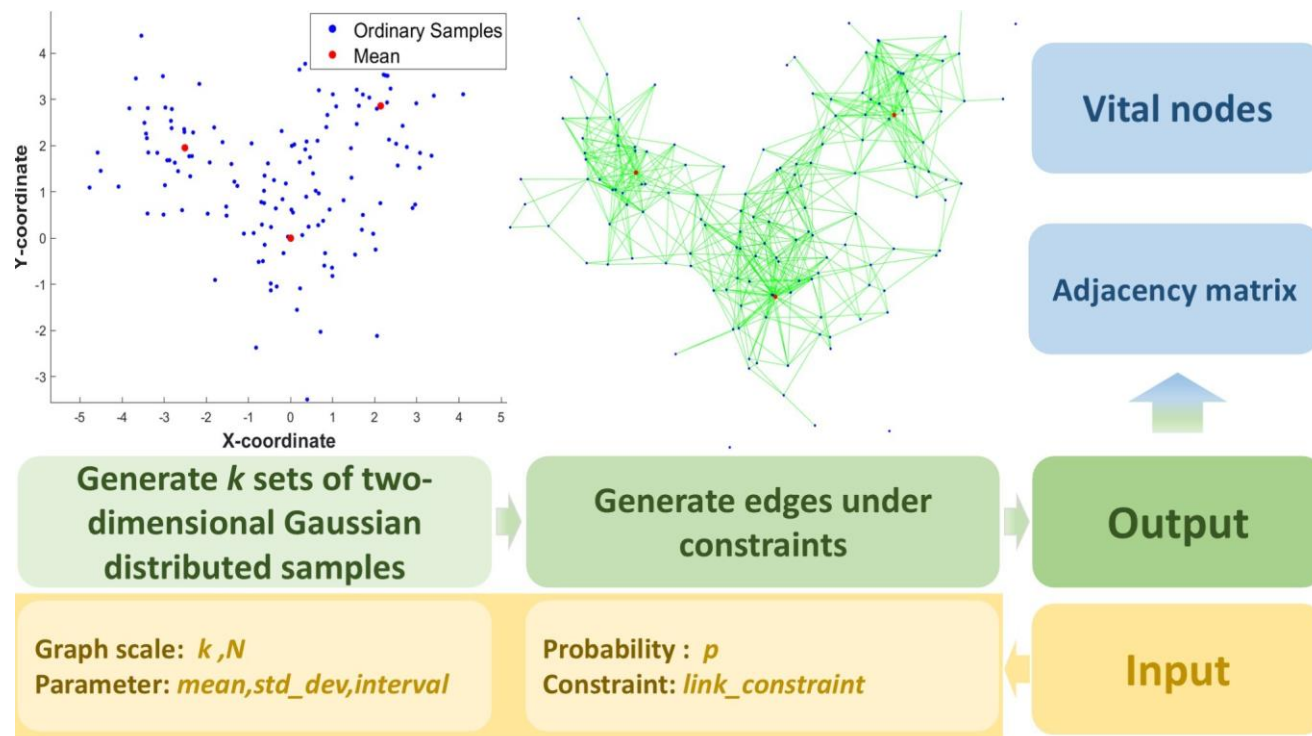
# BG2VN: Benchmark Graph Generator for Vital Node Recognition

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# Problems & Ideas

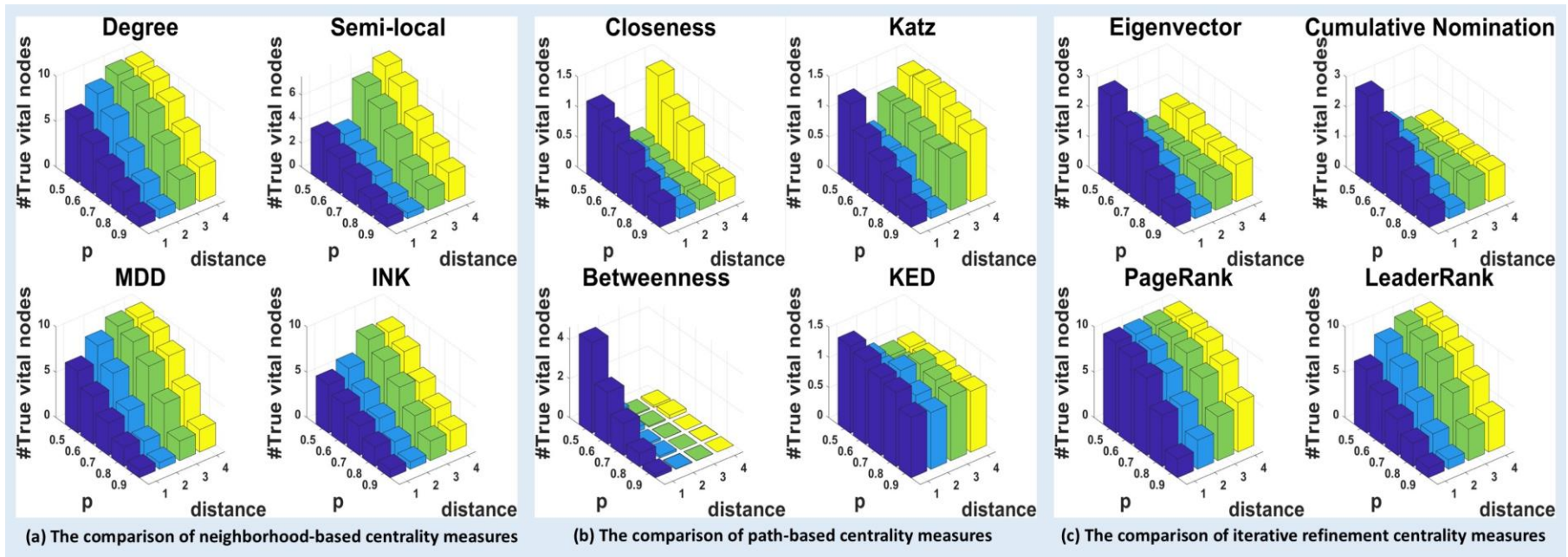
- Problem: Lack of standard benchmark networks with known ground-truth vital nodes.
- Ideas: A benchmark graph generator, which is able to create simulated networks in which the ground-truth vital nodes are present for assessing different algorithms.



Overview framework of BG2VN

# Main Contributions

- Contributions:
  - Provides a standard evaluation benchmark for vital node identification algorithms.
  - Allows for the specification of the graph's size and the number of vital nodes.
  - Enables customization of the graph's properties by adjusting parameters to modify the graph's heterogeneity and aggregation.



The comparison of centrality measures. The x-axis represents the approximate distance between distributions, the y-axis indicates the probability of edge formation, and the z-axis shows the number of true vital nodes identified.