XIN SHEN

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I am always fascinated by graph analysis (clustering, link prediction, etc.) and dream of being a creative scholar. I am passionate about designing algorithms that tackle many application fields like graph analysis for social and brain networks. My current journey of discovery revolves around the intersection field, which relies on the knowledge of graph analysis, machine learning, and statistic.

EDUCATION

Uppsala University	Oct. 2022 – Estimated Oct. 2027
Ph.D. candidate specialized in Network Science	Uppsala, Sweden
Ningbo University	Aug. 2018 - Jun. 2022
Bachelor of Engineering, Computer Science and Technology	Zhejiang, China

PROJECTS

Clustering in Probabilistic Networks

1st Project of Ph.D. Research
This project focuses on three properties of probabilistic graph models. The first concerns spreading processes. This part of the project will be based on well-studied epidemic models, such as SIS and SIR, under the presence of uncertainty in the existence of the edges. The second property is resilience, that is, the ability of (a significant portion of) the graph to remain connected when nodes or edges are removed from it. The third property is modularity, that is, the extent to which the graph contains subgraphs having a high density and limited connectivity to vertices outside the subgraph.
- Abstract: Modularity for probabilistic networks accepted by netsci2023 (regular talk)

Core-Periphery Structures Detection Algorithm based on Influence Propagation Mechanism

Bachelor Thesis
This method assumes that each node can emit a certain degree of influence and propagate through the network, and then identify the nodes that has a greater influence on other nodes as the core nodes, and use the maximum influence chain to construct nodes pairing network to determine the core-periphery pairs.

PUBLICATION

Paper:

[Finding Core-Periphery Structures With Node Influences](#)	IEEE Trans. Netw. Sci. Eng.
[Finding core–periphery structures in large networks](#)	Phys. A: Stat. Mech.

PROFESSIONAL REFERENCES

Matteo Magnani	Christian Rohner	Chengbin Peng
Job Title: Professor	Job Title: Professor	Job Title: Associate Professor
Uppsala University, Sweden	Uppsala University, Sweden	Ningbo University, China