

# XIN SHEN

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Network analysis has always fascinated me, particularly clustering and link prediction, and I aspire to become a creative scholar in this field. I am passionate about developing algorithms that address various applications of graph analysis, including social and brain networks. My current journey of exploration revolves around the intersection of graph analysis, machine learning, and statistics, which requires a deep understanding of these fields.

## EDUCATION

<b>Uppsala University</b>	Oct. 2022 – Estimated Oct. 2027
Ph.D. candidate specialized in Network Science	Uppsala, Sweden
<b>Ningbo University</b>	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](#)

Job Title: Professor

Uppsala University, Sweden

[Christian Rohner](#)

Job Title: Professor

Uppsala University, Sweden

[Chengbin Peng](#)

Job Title: Associate Professor

Ningbo University, China