XUECHENG LIU

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EDUCATION

Shanghai Jiao Tong University, Shanghai *September 2017 - Present*
Ph.D. candidate in Information and Communication Engineering
Department of Electronic Engineering

Shanghai Jiao Tong University, Shanghai *September 2013 - June 2017*
B.E. in Information Engineering

No.1 Middle School Affiliated to Central China Normal University, Wuhan *September 2010 - June 2013*

RESEARCH INTEREST

My primary research interests are in the field of statistical learning theory, stochastic processes, and graph theory. My research focuses on the inference problems in dynamic systems with network structure. Dynamic networked systems arise in many contexts: rumor diffusion in social networks, epidemic spreading in populations, emergence of scaling in world wide web, evolution of biological structures, dynamically evolving knowledge graphs, etc. The crucial questions in such applications are

1. **(modeling)** how to accurately model the evolving process of the networked systems

2. **(methodology)** how to effectively and efficiently infer the hidden variables in the networked system model

3. **(theory)** to what extent can we infer the quantity of interest from the available data and knowledge?

My research will balance both theory and practice, with an emphasis on providing a solid understanding of the fundamental limits of various dynamic network inference problems and developing elegant, and theoretically sound detectors or estimator for real applications.

PUBLICATIONS

Poster: Information Source Detection with Limited Time Knowledge
Xuecheng Liu, Luoyi Fu, Bo Jiang, Xiaojun Lin, and Xinbing Wang
To appear in ACM MobiHoc 2019
Brief summary: This work is about information source detection in networks. We use Bayesian method to design the detection algorithm. The proposed technique can be applied in online social networks, such as rumor source detection in online social networks.

Multicast Scaling of Capacity and Energy Efficiency in Heterogeneous Wireless Sensor Networks
Xuecheng Liu, Luoyi Fu, Jiliang Wang, Xinbing Wang, and Guihai Chen
ACM TOSN 2019
Brief summary: This work is about multicast scaling laws in wireless networks in terms of capacity and energy efficiency. The theoretical results can help us deploy the sensor networks to balance the multicast throughput and energy efficiency.

PROFESSIONAL EXPERIENCE

Teaching Assistant, SJTU   *March 2019 - Present*
Course Info: EE367, Fundamental Communication Circuits and Experiments

Teaching Assistant, SJTU   *March 2018 - July 2018*
Course Info: IE304, Principles of Wireless Communication and Mobile Networks

Intern, Ericsson, Shanghai   *July 2015 - August 2015*
Supervisor: Marshall Xu. Building Android application for live broadcasting.