ZESEN ZHANG

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AREAS OF INTERESTS

Network Security, System Security, Mobile Security, Cryptography, Blockchain Network, Probability theory

EDUCATION

School of Cyber Security Shanghai Jiao Tong University *09/2015 - present*
Major: Cyber Security

GPA: 89.0/100
Ranking:11/97
Tofel:99/120

Zhiyuan College, Shanghai Jiao Tong University *09/2015 - present*
Zhiyuan Honors Program of Engineering(Top 5%)

Antai College of Economics & Management, Shanghai Jiao Tong University *03/2016-present*
Double Major in accountancy

PUBLICATIONS

[1] Fu, Luoyi; Fu, Xinzhe; **Zhang, Zesen;** Xu, Zhiying; Wu, Xudong; Wang, Xinbing; Lu, Songwu, "Joint Optimization of Multicast Energy in Delay-constrained Mobile Wireless Networks" accepted by the *IEEE/ACM Transactions on Networking.* (*Contribution:* Make the experiment, help with some mathematical theory and write the revision letter to the reviewer.)

[2] **Zesen Zhang,** Dongrui Lu, YinYou Li, Luoyi Fu, Guihai Chen "Evolving Information Cascading: Late Bird Matters" submitted to *IEEE INFOCOM 2019*

[3] Xiaohua Tian, Luoyi Fu, **Zesen Zhang**, Zhiying Xu, Jun Zhao, Xinbing Wang "Unraveling Impact of Critical Sensing Range on Mobile Camera Sensor Networks" under reviewed by *the Transactions on Mobile Computing.* (*Contribution:* Make the experiment and write the revision letter to the reviewer.)

HONORS & AWARDS

First prize, National mathematical contest in modeling(Country level) (Top 1.4%)	*2017*
Third prize, National physics competition (provincial level) (Top 8%)	*2016*
Chuntsung programme scholarship	*2018*
Zhiyuan honours programme scholarship	*2015-2017*
Zhiyuan ABC scholarship	*2015-2017*
Merit student in Shanghaijiaotong University	*2017*
Excellent league member in Shanghaijiaotong University	*2017*

RESEARCH EXPERIENCES

Research in **Networks & System**

Supervisors: **Prof. Xingbin Wang**

Research Center: **Intelligent Internet of Things**, SJTU

Reviewer of: *China Communication, Wireless Network*

Asymptotic Analysis and Privacy protection in Social Networks. *Aug 2018 - present*
Independent Research *Supervisors:* **Prof. Luoyi Fu, Assitant Professor of Computer Science and Engineering, Shanghai Jiao Tong University**

- Description: This study shows how to de-anonymize the identity of a people in an anonymized network using the mapping between two networks.
- Using the preferential attachment model to show the evolving character of the social network and find the degree character in the preferential attachment model. Applied the Maximum Posterior Probability to make the MAP index which can wonderfully show the relationship between the subgraphs and the super-graph.
- Tried to use the single-arm bandit to form the modified function contributed by the evolving characteristic of the network.

The Percolation of Rumor In the Evolving Social Network *Jan 2018 - July 2018*
Independent Research *Supervisors:* **Prof. Luoyi Fu, Assitant Professor of Computer Science and Engineering, Shanghai Jiao Tong University**

- Description: This study shows the critical scale of "seed" that we need to percolate the influence to the whole evolving network.
- Applied the Markov process to portray the evolving process under the the preferential attachment(PA) model and the Erdos-Renyi(ER) model which can form every each step recursively.
- Verifying the result of theoretical deduction in large-scale academic network.

Optimizing Multicast Energy in Mobile Wireless Networks *June 2017 - Dec 2017*
Research Assistant Supervisors: **Prof. Luoyi Fu, Assitant Professor of Computer Science and Engineering, Shanghai Jiao Tong University**

- Description: Conducted experiments with different approximation algorithms on three different networks.
- Argued with the reviewers and revised the paper. Improving the paper from "Major" to "Accept".

SELECTED COURSE PROJECTS

Intelligent mobile gray software detection and analysis system *March 2018-May 2018*
Information Security Innovation Competition

Transform the binary code into the gray graph and then use Neural Network to learn the graph. We get a 92% accuracy in our project.

Face Detection Clock *March 2018 - May 2018*
Course Project of Embedded System

Using opencv to detect people's face and eyes. Then embed the C++ program into the Android. Only when the camera detects the people's face and eyes will the clock stop.

Encrypted communication system based on netfilter *Sep 2017 - Jan 2018*
Course Project of software system

Using the AES and RSA algorithm to encrypt and decrypt the information transfer between the client and server. And it can choose to encrypt the words based on a specific protocol(Like TCP or UDP).

TECHNICAL STRENGTHS

Computer Languages	Proficient in C/C++; Familiar with Java, Python, html;
Language for Hardware	C, Verilog VHDL
Other Tools	MATLAB, LaTeX, Multisim