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# Kechen Zhuang

www.zhuangkechen.me

## Education

Nanjing University of Science & Technology, China

B.S., Computer Science & Technology, Sep, 2006 - Jun, 2010

Ph.D. student, Computer Science & Technology, Sep, 2010 - present

Visiting Scholar at University of Washington (Seattle), Jan, 2013 - Oct, 2013

## Research Interests

Information diffusion mining, modeling and prediction

Large scale dynamic network and data analysis

Data intensive/cloud enables computing

Wireless sensor network and wireless security

## Research and Work Projects

Online Social network data analysis and information diffusion research (2012-Present)

Analyze the large amount of data from micro-blog (a china version twitter) based on Hadoop and Hama, major on relationship network and the information cascades dynamics. And also develop networks from the data and capture the critical network properties by parallel computing, to find how the structure of network affects the information dynamically spread on it.

Human mobility patterns and anomaly detection (2013)

Based on large scale anonymous Los Angeles city mobile phone users data set, which contains imprecise geographic information, analyzed the human mobility pattern under different scales, propose several anomaly detection measurements, and found out that the urban area people have regular weekly mobility pattern under stable circumstances, the pattern is highly predictable.

Wireless sensor network security (Oct, 2011 - May, 2012)

Simulate the worm propagation and the immune control in the WSN, based on a Castalia WSN simulator. Purpose an emergency response mechanism which spreading anti-worm in the WSN to curb the spread of the worm/virus. The mechanism was simulated in a large WSN environment and function effectively.

Complex network invulnerability and key node research (Sep, 2010 - Apr, 2011)

Complex network invulnerability and measurement method research, a complex network experiment and visualization software programing with Java, and implanted with variety of measure algorithms and key node discovery algorithms.

Security information transmission services software (Mar, 2010 - Jun, 2010)

Security computer network IPv4 to IPv6 NAT windows sockets library program, with NDIS IPv4 and IPv6 packets capture and analysis software programing.

## Publications

Zhuang Kechen, Zhang Hong, Zhang Kun, Jiang Haitao, Analysis of Spreading Dynamics of Virus in Wireless Sensor Networks, *Computer Science(in Chinese)*, 2012

Zhuang Kechen, Zhang Hong, Zhang Kun, Simulation-Based Analysis of Worm Propagation in Wireless Sensor Network, *The 4th International Conference on Multimedia Information Networking and Security* (MINES 2012)

Zhuang Kechen, Zhang Kun, Zhang Hong, Large Scale Information Diffusion Analysis and Simulation with a Map-Reduce Solution, *Journal of Computational Information Systems*, 2015-02.

## Awards

Outstanding graduates of NUST (Jun 2010)
The second class scholar of NUST (2007-2010)

## Computer skills

Python, Java, C/C++, NoSQL, Hadoop, Spark, Shell, etc.

## English proficiency

College English Test-6 qualified
Good at verbal and written communication skills