



## Kechen Zhuang

[www.zhuangkechen.me](http://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 Sina Weibo based on Hadoop, Spark and Cascading, 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. Further, I did researches on the information diffusion modeling and prediction.

Human mobility patterns and anomaly detection (2013)

Based on large scale anonymous Los Angeles city mobile phone anonymous user dataset, 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 programming 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 programming.

## **Papers**

Zhuang Kechen, et al. Modeling Information Diffusion in Microblogs with Survival Analysis, *International Journal of Multimedia and Ubiquitous Engineering*.

Zhuang Kechen, et al. User Spread Influence Measurement in Microblog, *Multimedia Tools and Applications*.

Zhuang Kechen, et al. Event-related Burst Analysis and Time Prediction on Microblog Data, *Journal of Computational and Theoretical Nanoscience*.

Zhuang Kechen, et al. Information diffusion temporal dynamic prediction in microblog system based on user influence learning, *International Journal of Hybrid Information Technology*.

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.

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

## **Awards**

Outstanding graduates of NUST (Jun 2010)

The second class scholar of NUST (2007-2010)

## **Computer skills**

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

## **English proficiency**

College English Test-6 qualified,

Good at verbal and written communication skills.