

# Junjie Guan (Jack)

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## EDUCATION

2013 – 2015 **Dartmouth College**  
COMPUTER SCIENCE, M.S.

2009 – 2012 **Beijing University of Posts and Telecommunication**  
COMMUNICATION ENGINEERING,  
, B.S.

## INTERESTED FIELD

Networking, Cloud, Distributed Computing, Web Design, Web Development

## WORK EXPERIENCE

Software Developer @ Tiltfactor, Dartmouth

### *Metadata Game Project*

- 1) developing and testing a full-stack website on Yii framework;
- 2) Database Design
- 3) Cooperation with other programmers using Asana and Git.

Granted from National Endowment for the Humanities (NEH), a open source, internetbased system for augmenting access to archival records.

AUG 2013 – PRESENT

Research Assistant @ NetLab, Tsinghua University

### *DCloud: Deadline Guaranteed Cloud Computing*

- 1) Design a new datacenter resource allocation mechanism, by considering deadline into job scheduling
- 2) Build thousands of lines of C++ simulations program
- 3) Implementation on a 16-machine cluster, writing controlling program with Python and Bash shell
- 4) Validating efficiency with Hadoop application using Java,
- 5) Try compare with optimal solution using IBM Cplex.

Increase job throughput by 30~50% comparing to state-of-art, submitted to ACM SIGCOMM 2013 as second author.

SEP 2012 – FEB 2013

## PROJECTS IN COMPETITIONS

Team Leader @ Microsoft Imagine Cup 2012

### *UpAround Social Platform*

- 1) Propose the idea of a location-based social platform, and initiate a technique team of 4.
- 2) Manage the product development and presentation.
- 3) As lead programmer, built a full-stack social platform on .Net framework.
- 4) Design and develop a highly-interactive UI using javascript/jquery, html5, css3.

Gained the 3rd prize in Software Design China Zone (6%).

Url: <http://www.youtube.com/watch?v=b8UHGPxJFyQ>

DEC 2011 – MAY 2012

Team Leader @ Innovation Project Center of BUPT

### *SIDES: Scalable Intelligent Distributed Emergency System*

- 1) Propose the idea of a decentralized self-organize wireless-based emergency system that generates real-time evacuation strategy to save lives in fire hazard,
- 2) Design the the distributed protocol.
- 3) Conduct simulation on C++ program, and implement in Zigbee wireless nodes using C.

Shorten evacuation by around 50% comparing to normal strategy, Won first prize as National Class Innovation Project.

Publication: **Guan, Junjie**, et al. "SIDES: Scalable Intelligent Distributed Emergency System." Network Infrastructure and Digital Content (IC-NIDC), 2012 3rd IEEE International Conference on. IEEE, 2012.

AUG 2011 – JUL 2012

## INDEPENDENT WORK

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AUG 2011 – FEB 2013

Undergraduate @ Future Network Lab of BUPT

### *Status-Based Content Sharing Mechanism for CCN*

Reduce overheads and increase transfer rate by around 30% in Content-Centric Network by pre-determining a host based on source status. Then built a experiment network based on CCNx using C.

Publication: **Guan, Junjie**, et al. "Status-Based Content Sharing Mechanism for Content-Centric Network." Communication Technology (ICCT), 2012 IEEE 14th International Conference on. IEEE, 2012.

APR 2011 – MAY 2011

Undergraduate @ Internet Research Department Center of BUPT

### *WAP Topology Property Analysis: Comparison With WWW*

- 1) Developed a multi-thread web crawler using Python.
- 2) Keep recording statistics for weeks using mySql.
- 3) Analyzed the topology characteristics of WAP ,e.g. degree distribution and clustering coefficient.

## ACADEMIC PROJECTS

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BEFORE

@BUPT

### **The Construction of Campus Network**

Design and construct a campus network from bottom to top layer, and configured enterprise level routers and switches for routing table, Vlan, ACL.

### **Interactive Smith Chart - A Html5 Web App**

A nicely designed and useful Smith chart using html5 canvas and jQuery, which is a graphical aid or nomogram designed for electrical and electronics engineers.

Url: <http://jacksmithchart.sinaapp.com/>

### **A Course Sign-up Robot Program**

A robot program written by AutoIt, which is capable of auto-finishing course sign-up instantly.

## PROFESSIONAL SKILLS

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GOOD LEVEL	C++, Html(5), CSS(3), Javascript, jQuery, $\text{\LaTeX}$ , Photoshop, Matlab
INTERMEDIATE	Git, Python, Java, PHP, C#, Bash shell script, MySQL, SqlServer, IBM Cplex Optimizer, Wireshark, AutoIt, Hadoop
BASIC LEVEL	Nodejs, Assembly, VHDL, NS2