

# Junxian Huang

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## Employment

Software Engineer, *Platforms Group, Google*, Mountain View (August, 2013 - Present)

## Education

Ph.D. Computer Science, *The University of Michigan*, Ann Arbor (August, 2008 - May, 2013)

B.S. Computer Science, *Tsinghua University*, Beijing (July, 2004 - July, 2008)

## Internship

*AT&T Labs Research*, summer intern (May, 2012 - August, 2012)

*Microsoft Research Silicon Valley*, summer intern (May, 2010 - August, 2010)

*Microsoft Research Asia*, summer intern (June, 2007 - January, 2008)

## Publications

Performance and Power Characterization of Cellular Networks and Mobile Application Optimizations.  
*Junxian Huang.*

**Ph.D. thesis 2013**

An In-depth Study of LTE: Effect of Network Protocol and Application Behavior on Performance.  
*Junxian Huang, Feng Qian, Yihua Guo, Yuanyuan Zhou, Qiang Xu, Z. Morley Mao, Subhabrata Sen and Oliver Spatscheck.*

**SIGCOMM 2013**

SocialWatch: Detection of Online Service Abuse via Large-Scale Social Graphs.  
*Junxian Huang, Yinglian Xie, Fang Yu, Qifa Ke, Martin Abadi, Eliot Gillum and Z. Morley Mao.*

**ASIACCS 2013**

How to Reduce Smartphone Traffic Volume by 30%?  
*Feng Qian, Junxian Huang, Jeffrey Erman, Z. Morley Mao, Subhabrata Sen, and Oliver Spatscheck.*

**PAM 2013, Best Paper Nominee**

Screen-Off Traffic Characterization and Optimization in 3G/4G Networks.  
*Junxian Huang, Feng Qian, Z. Morley Mao, Subhabrata Sen, and Oliver Spatscheck.*

**IMC 2012**

Innocent by Association: Early Recognition of Legitimate Users.  
*Yinglian Xie, Fang Yu, Qifa Ke, Martin Abadi, Eliot Gillum, Krish Vitaldevaia, Jason Walter, Junxian Huang, and Z. Morley Mao.*

**CCS 2012**

A Close Examination of Performance and Power Characteristics of 4G LTE Networks.  
*Junxian Huang, Feng Qian, Alexandre Gerber, Z. Morley Mao, Subhabrata Sen, and Oliver Spatscheck.*  
**Mobisys 2012, Best Paper Nominee**

Web Caching on Smartphones: Ideal vs. Reality.  
*Feng Qian, Kee Shen Quah, Junxian Huang, Jeffrey Erman, Alexandre Gerber, Z. Morley Mao, Subhabrata Sen, and Oliver Spatscheck.*  
**Mobisys 2012**

Periodic Transfers in Mobile Applications: Network-wide Origin, Impact, and Optimization.  
*Feng Qian, Zhaoguang Wang, Yudong Gao, Junxian Huang, Alexandre Gerber, Z. Morley Mao, Subhabrata Sen, and Oliver Spatscheck.*  
**WWW 2012**

Cellular Data Network Infrastructure Characterization and Implication on Mobile Content Placement.  
*Qiang Xu, Junxian Huang, Zhaoguang Wang, Feng Qian, Alexandre Gerber, and Z. Morley Mao.*  
**Sigmetrics 2011**

Anatomizing Application Performance Differences on Smartphones.  
*Junxian Huang, Qiang Xu, Birjodh Tiwana, Z. Morley Mao, Ming Zhang, and Paramvir Bahl.*  
**Mobisys 2010, Best Paper Nominee**

Deception Detection Via Blob Motion Pattern Analysis.  
*Fan Xia, Hong Wang, and Junxian Huang.*  
**Affective Computing and Intelligent Interaction (ACII) 2007**

## Technical Reports

SocialWatch: Detection of Online Service Abuse via Large-Scale Social Graphs.  
*Junxian Huang, Yinglian Xie, Fang Yu, Qifa Ke, Martin Abadi, Eliot Gillum, and Z. Morley Mao.*  
**MSR-TR-2013-24, 2013**

Uncovering Cellular Network Characteristics: Performance, Infrastructure, and Policies.  
*Junxian Huang, Feng Qian, Qiang Xu, Zhiyun Qian, Z. Morley Mao, and Ammar Rayes.*  
**CSE-TR-578-13, 2013**

Anatomizing Application Performance Differences on Smartphones.  
*Junxian Huang, Qiang Xu, Z. Morley Mao, Ming Zhang, and Paramvir Bahl.*  
**CSE-TR-556-09, 2009**

## Conference Talks

Screen-Off Traffic Characterization and Optimization in 3G/4G Networks.  
**IMC 2012** Boston, United States

A Close Examination of Performance and Power Characteristics of 4G LTE Networks.  
**Mobisys 2012** Lake District, United Kingdom

Anatomizing Application Performance Differences on Smartphones.  
**Mobisys 2010** San Francisco, United States

## Honors and Awards

2011 - Runner-up of the Fall 2011 University of Michigan Mobile Apps Challenge

2011 - Winners of the **FCC Open Internet App Challenge** in `Challenge.gov`  
In the categories of “Open Internet App Award” and “People’s Choice App”.  
Project: “MobiPerf: Mobile Network Measurement System”  
*University of Michigan and Microsoft Research*

2010 - Winner of Yahoo Hack U Competition in University of Michigan

2010 - Runner-up of the Spring 2010 University of Michigan Mobile Apps Challenge

2010 - MobiSys 2010 Student Travel Grant

2008 - Excellent Graduation Award

2006 - First-Class award in the Collegial Physics Competition in Beijing, China

2005 - Admitted into the Special Pivot Yao Class supervised by Turing Award winner, Prof. Andrew Chi-Chih Yao, 24 students selected campus-wise

2005 - First-Class Scholarship for Undergraduate in Tsinghua University (5 out of 160 students in the Department of Computer Science)

2004 - First-Class Scholarship for Freshman in Tsinghua University

2004 - Ranked 4th in  $\sim 400,000$  examinees in National College Entrance Exam in Hubei Province, China

2003 - First-Class Prize in the National Physics Olympiad in Hubei, China

## Patents

*TCP Timestamps based Passive Bandwidth Estimation Technique.*  
Filed in 2012.

*Intelligent Radio Resource Deallocation Framework Based on Inter-Burst Time (IBT) Prediction for User Equipment (UE) Energy Saving and Radio Resource Optimization for Cellular Networks.*  
Filed in 2012.

*Screen-aware Mobile Application Optimization for Energy Saving.*  
Filed in 2012.

*Using Social Graphs to Combat Malicious Attacks.*  
Publication number: **US20120246720A1**.  
Published in 2012.

## Teaching

Teaching Assistant in EECS 489, Computer Networks (Winter, 2011)

## Miscellaneous

I have served as a reviewer for INFOCOM 2011, MC2R 2012, Transactions on Mobile Computing 2012.

I have developed iOS and Android apps that have cumulatively over 3 million users.