Ruichuan Chen

Max Planck Institute for Software Systems (MPI-SWS)
Gottlieb-Daimler-Strasse Building 49
67663 Kaiserslautern, Germany

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Interests

◇ Networking and distributed systems with an emphasis on online privacy, Internet routing, overlay networks, and online social networks.

Education

◇ **Peking University** — Beijing, China
Ph.D. in Computer Science (top 5%) — Sep 2004 – Jul 2009
Advisors: Changxiang Shen and Zhong Chen
Thesis title: *Anti-Pollution Mechanism and its Key Technology in P2P File Sharing Systems*

◇ **Chongqing University** — Chongqing, China
B.E. in Computer Science and Technology (top 5%) — Sep 2000 – Jul 2004
Advisor: Xiaofeng Liao
Thesis title: *Digital Watermarking based on Chaotic Mapping*

Work Experience

◇ **Max Planck Institute for Software Systems (MPI-SWS)** — Germany
Postdoctoral Researcher — Aug 2009 – Present
Supervisor: Paul Francis

◇ **AT&T Labs Research** — Florham Park, NJ, USA
Visiting Researcher — Dec 2010 – Jan 2011
Hosted by Jia Wang and Aman Shaikh

◇ **IBM China Research Lab** — Beijing, China
Intern — Jul 2006 – Jan 2008
Advisors: Honglei Guo and Zhong Su

◇ **Baidu Portal Search Group** — Beijing, China
Intern — Oct 2005 – Apr 2006
Advisors: Song Hu and Mengqiu Wang

Conference Papers

◇ **Towards Statistical Queries over Distributed Private User Data**
Ruichuan Chen, Alexey Reznichenko, Paul Francis and Johannes Gehrke
In *NSDI 2012*, San Jose, USA, April 2012.

◇ **Address-based Route Reflection**
Ruichuan Chen, Aman Shaikh, Jia Wang and Paul Francis
In *CoNEXT 2011*, Tokyo, Japan, December 2011.

◇ **SMALTA: Practical and Near-Optimal FIB Aggregation**
Zartash Uzmi, Markus Nebel, Ahsan Tariq, Sana Jawad, Ruichuan Chen, Aman Shaikh, Jia Wang and Paul Francis
In *CoNEXT 2011*, Tokyo, Japan, December 2011.

◇ **Bring Order to Online Social Networks**
Ruichuan Chen, Eng Keong Lua and Zhuhua Cai
In *INFOCOM 2011*, Shanghai, China, April 2011.

◇ **SpamResist: Making Peer-to-Peer Tagging Systems Robust to Spam**
Ennan Zhai, Ruichuan Chen, Eng Keong Lua, Long Zhang, Huiping Sun, Zhuhua Cai, Sihan Qing and Zhong Chen
In *GLOBECOM 2009*, Hawaii, USA, November 2009.

◇ **Sorcery: Could We Make P2P Content Sharing Systems Robust to Deceivers?**
Ennan Zhai, Ruichuan Chen, Zhuhua Cai, Long Zhang, Eng Keong Lua, Huiping Sun, Sihan Qing, Liyong Tang and Zhong Chen
In *P2P 2009*, Seattle, USA, September 2009.

◇ **SKIP: A Secure Key Issuing Scheme for Peer-to-Peer Networks**
Cong Tang, Ruichuan Chen, Zhuhua Cai, Jianbin Hu and Zhong Chen
In *ICNS 2009*, Valencia, Spain, April 2009.

◇ **A Holistic Mechanism Against File Pollution in Peer-to-Peer Networks**
Zhuhua Cai, Ruichuan Chen, Jianqiao Feng, Cong Tang, Zhong Chen and Jianbin Hu
In *SAC 2009*, Hawaii, USA, March 2009.

◇ **Securing Peer-to-Peer Content Sharing Service from Poisoning Attacks**
Ruichuan Chen, Eng Keong Lua, Jon Crowcroft, Wenjia Guo, Liyong Tang and Zhong Chen
In *P2P 2008*, Aachen, Germany, September 2008.

◇ **Scalable Byzantine Fault Tolerant Public Key Authentication for Peer-to-Peer Networks**
Ruichuan Chen, Wenjia Guo, Liyong Tang, Jianbin Hu and Zhong Chen
In *Euro-Par 2008*, Las Palmas de Gran Canaria, Spain, August 2008.

◇ **WebIBC: Identity Based Cryptography for Client Side Security in Web Applications**
Zhi Guan, Zhen Cao, Xuan Zhao, Ruichuan Chen, Zhong Chen and Xianghao Nan
In *ICDCS 2008*, Beijing, China, June 2008.

◇ **CuboidTrust: A Global Reputation-Based Trust Model in Peer-to-Peer Networks**
Ruichuan Chen, Xuan Zhao, Liyong Tang, Jianbin Hu and Zhong Chen
In *ATC 2007*, Hong Kong, China, July 2007.

◇ **Hybrid Overlay Structure Based on Virtual Node**
Ruichuan Chen, Wenjia Guo, Liyong Tang, Jianbin Hu and Zhong Chen
In *ISCC 2007*, Aveiro, Portugal, July 2007.

WORKSHOP PAPERS

◇ **Social Trust and Reputation in Online Social Networks** (invited paper)
Eng Keong Lua, Ruichuan Chen and Zhuhua Cai
In *HotPOST 2011*, Tainan, Taiwan, December 2011.

◇ **Whats in a Name: A Study of Names, Gender Inference, and Gender Behavior in Facebook**
Cong Tang, Keith Ross, Nitesh Saxena and Ruichuan Chen
In *SNSMW 2011*, Hong Kong, China, April 2011.

JOURNAL PAPER

◇ **Adaptive Client Puzzle Scheme Against Denial-of-Service Attacks**
Ruichuan Chen, Wenjia Guo, Liyong Tang and Zhong Chen
In *Chinese Journal of Software*, 20(9): 2558-2573, 2009.

POSTERS

◇ **Green: Towards a Pollution-Free Peer-to-Peer Content Sharing Service**
Ruichuan Chen, Eng Keong Lua, Zhuhua Cai, Jon Crowcroft, Ennan Zhai and Zhong Chen
In *SIGCOMM 2009 poster session*, Barcelona, Spain, August 2009.
Extended version at `http://arxiv.org/pdf/1108.1343`

◇ **Phagocytes: A Holistic Defense and Protection Against Active P2P Worms**
Ruichuan Chen, Eng Keong Lua, Jon Crowcroft, Cong Tang, Liyong Tang and Zhong Chen
In *NSDI 2009 poster session*, Boston, USA, April 2009.
Extended version at `http://arxiv.org/pdf/1108.1350`

◇ **Securing Key Issuing in Peer-to-Peer Networks**
Cong Tang, Ruichuan Chen, Zhuhua Cai, Anmin Xie, Jianbin Hu, Liyong Tang and Zhong Chen
In *SAC 2009 poster session*, Hawaii, USA, March 2009.

PATENTS

◇ **A Trusted Connection Authentication Scheme Based on Combined Public Key**
Xianghao Nan and Ruichuan Chen
Patent No. CN200610083792.9

◇ **Soft-Synchronization Approach for Onsite Dynamic Balancing Instrument**
Ruichuan Chen, Guocong Chen and Cheng Wang
Patent No. CN03135722.9

◇ **Font Generation for Industrial Marking Machines on the Windows Platform**
Lili Yi, Ruichuan Chen, Cheng Wang and Guocong Chen
Patent No. CN03117739.5

SOFTWARE IN USE

◇ **The First Version of Deadlink Checking Module in the Baidu Search Engine**
at Baidu Portal Search Group

Baidu is the leading Chinese language search engine (Alexa ranking: 5th in Dec 2011). I *independently* designed and developed the first version of deadlink checking module of the Baidu search engine by utilizing both non-blocking I/O and multi-threading.

◇ **Natural Language Processing in a Large-scale Banking System**
at IBM China Research Lab

We studied various natural language processing techniques, and developed a software module which can help a large-scale banking system perform address alias detection, out-of-vocabulary word detection, and sentiment analysis. This software is used in the Bank of China, Shandong branch.

◇ **Combined Public Key (CPK) Cryptography**
at Peking University

We studied the shortcomings of existing identity-based cryptography (IBC) schemes, and proposed a new IBC scheme, *combined public key (CPK)*, based on elliptic curve cryptography. We built two systems based on CPK. The first system, called WebIBC, secures user data from online storage service providers. The second one is a CPK-based e-document system which has been adopted by the China Minsheng Banking Corporation.

Teaching Experience

◇ **Teaching Assistant**, Peking University — Spring 2006
Network and Information Security (Graduate Course)

◇ **Teaching Assistant**, Peking University — Fall 2005
Data Structure (Undergraduate Course)

Professional Services

TPC co-chair for ICCCN 2011 SIMNA Workshop
TPC co-chair for IEEE CCNC 2010 Special Session on Social Networking
TPC member for HotPOST 2012, HotPOST 2011
External reviewer for IPCCC 2009, ICDCS 2008, ISCC 2008
Reviewer for IEEE Transactions on Parallel and Distributed Systems (TPDS)
Reviewer for Elsevier Computer Networks Journal
Reviewer for Springer Peer-to-Peer Networking and Applications Journal

Honors & Awards

Los Angeles Scholarship, Peking University (top 2%) — 2008
Huawei Scholarship, Peking University (top 2%) — 2007
Third in the 4x50m Freestyle Relay Swimming Competition, Peking University — 2005, 2006
First Prize in the "Baidu Star" Program Design Competition (top 1%) — 2005
Excellent Graduate, Chongqing University (top 5%) — 2004
First Prize in the International Interdisciplinary Contest in Modeling (top 15%) — 2003
Second Prize in China Undergraduate Mathematical Contest in Modeling (top 10%) — 2002
First-Class Scholarship, Chongqing University (top 5%) — 2000 – 2004

Hobbies

Swimming (National third-class athlete of China)
Hiking & Mountaineering
Badminton

References

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