Taejoong (Tijay) Chung

Assistant Professor (tjc@cs.rit.edu, https://taejoong.github.io)

Education

09/2009–02/2015   **Ph.D.**, Computer Science and Engineering, Seoul National University, Seoul, Korea.
- Thesis: "*Analytic Approach of Understanding Crowd Phenomena on the Internet: Case Studies of MMORPG and BitTorrent*"
- Supervisors: Prof. Yanghee Choi and Prof. Ted "Taekyoung" Kwon

03/2005–09/2009   **B.S.**, Computer Science and Enginnering, POSTECH (Pohang University of Science and Technology), Pohang, Korea.

Professional Experiences

08/2018–present   **Assistant Professor**, B. Thomas Golisano College of Computing and Information Sciences, Rochester Institute of Technology (RIT), Rochester, NY, United States.

09/2015–08/2018   **Postdoctoral Researcher**, Northeastern University, Boston, MA, United States.

03/2015–02/2016   **Postdoctoral Researcher**, Seoul National University, Seoul, Korea.

06/2013–03/2014   **Research Intern**, Cisco Systems, Cambridge, MA, United States.

08/2011–02/2015   **Research Assistant**, Seoul National University, Seoul, Korea.

Honors and Awards

2019   Applied Networking Research Prize at IETF

2017   Distinguished Paper Award, USENIX Security'17

2015   Microsoft Azure Research "Award Program: Microsoft Azure for Research Supports $20,000"

2010   Best Paper Award, Korea Information and Communication Society (KICS)

2010   Best Paper Award, IEEE Communication Society Seoul Chapter

Grants

2019   CNS Core: Large: Collaborative Research: Towards an Evolvable Public Key Infrastructure
- National Science Foundation. CNS-1901090, 06/2019 – 05/2022. Primary Investigator, joint with Dave Levin (UMD), Bruce M. Maggs (Duke University), Alan Mislove (NEU), Christo Wilson (NEU), Bryan Parno (CMU). $300,000 (RIT), $2,000,000 (total)

2019   CRII: SaTC: Measuring and Improving the Management of Resource Public Key Infrastructure (RPKI)
- National Science Foundation. CNS-1850465, 10/2019 – 09/2021. Primary Investigator. $166,561

2015   Personal Recommendation System and Privacy Protection through Big Data Analysis on Online Social Networks
- National Research Foundation of Korea (NRF). NRF-2016018668, 03/2015 – 02/2016. Primary Investigator. ₩50,000,000 ($\approx$ $44,000)

Refereed Conference Publications

NDSS'19 · **maTLS: How to Make TLS middlebox-aware?**
Hyunwoo Lee, Zachary Smith, Junghwan Lim, Gyeongjae Choi, Selin Chun, T. Chung, and Ted "Taekyoung" Kwon
NDSS, San Diego, USA, Feb. 2019

IMC'18 · **Is the Web Ready for OCSP Must Staple?**
T. Chung, Jay Lok, Balakrishnan Chandrasekaran, David Choffnes, Dave Levin, Bruce M. Maggs, Alan Mislove, John Rula, Nick Sullivan, and Christo Wilson
IMC, Boston, USA, Nov. 2018

CSCW'18 · **Privacy Leakage in Event-based Social Networks: A Meetup Case Study**
T. Chung, J. Han, D. Choi, T. Kwon, J. Rha, and H. Kim
CSCW, Jersey City, USA, Nov. 2018

IMC'17 · **Understanding the Role of Registrars in DNSSEC Deployment**
T. Chung, R. van Rijswijk-Deij, D. Choffnes, A. Mislove, C. Wilson, D. Levin, and B. M. Maggs
IMC, London, UK, Nov. 2017

USENIX Security'17 · **A Longitudinal, End-to-End View of the DNSSEC Ecosystem**
T. Chung, R. van Rijswijk-Deij, B. Chandrasekaran, D. Choffnes, D. Levin, B. M. Maggs, A. Mislove, and C. Wilson
USENIX Security, Vancouver, Canada, Aug. 2017

IMC'16 · **Measuring and Applying Invalid SSL Certificates: The Silent Majority**
T. Chung, Y. Liu, D. Choffnes, D. Levin, B. M. Maggs, A. Mislove, and C. Wilson
IMC, Santa Monica, CA, USA, Nov. 2016

IMC'16 · **Tunneling for Transparency: A Large-Scale Analysis of End-to-End Violations in the Internet**
T. Chung, D. Choffnes, and A. Mislove
IMC, Santa Monica, CA, USA, Nov. 2016

CCS'16 · **Measurement and Analysis of Private Key Sharing in the HTTPS Ecosystem**
F. Cangialosi, T. Chung, D. Choffnes, D. Levin, B. M. Maggs, A. Mislove, and C. Wilson
CCS, Vienna, Austria, Oct. 2016

COSN'15 · **Characterizing Conversation Patterns in Reddit: From the Perspectives of Content Properties and User Participation Behaviors**
D. Choi, J. Han, T. Chung, Y. Ahn, B. Chun, and T. Kwon
COSN, Stanford, CA, USA, Nov. 2015

COSN'15 · **Sharing Topics in Pinterest: Understanding Content Creation and Diffusion Behaviors**
J. Han, D. Choi, A. Choi, T. Chung, T. Kwon, J. Rha, and C. Chuah
COSN, Stanford, CA, USA, Nov. 2015

ANCS'14 · **CoRC: Coordinated Routing and Caching for Named Data Networking**
H. Choi, J. Yoo, T. Chung, N. Choi, T. Kwon, and Y. Choi
ANCS, Marina del Rey, CA, USA, Oct. 2014

WWW'14 · **Unveiling Group Characteristics in Online Social Games: A Socio-Economic Analysis**
T. Chung, J. Han, D. Choi, T. Kwon, H. K. Kim and Y. Choi
WWW, Seoul, Korea, Apr. 2014

IFIP Networking'13 · **Spatial and Temporal Locality of Content in BitTorrent: A Measurement Study**
T. Chung, J. Han, H. Lee, J. Kangasharju, T. Kwon, and Y. Choi
IFIP Networking, Brooklyn, NY, USA, May 2013

SIGMETRICS'12 · **Bundling Practice in Bittorrent: What, How, and Why**
J. Han, S. Kim, T. Chung, T. Kwon, H. Kim, and Y. Choi
SIGMETRICS, London, UK, Jun. 2012

IFIP Networking'12	**Content Publishing and Downloading Practice in BitTorrent** S. Kim, J. Han, T. Chung, T. Kwon, H. Kim, and Y. Choi IFIP Networking, Prague, Czech, May 2012
GLOBECOM'12	**Bandwidth Allocation for BitTorrent under Multi-Torrent Environments** J. Choi, J. Han, T. Chung, E. Cho, T. Kwon, and Y. Choi GLOBECOM, Houston, Texas, United States, Dec. 2011

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Journal Publications

Predicting Content Consumption from Content-to-Content Relationships

Jinyoung Han, Daejin Choi, T. Chung, Chen-Nee Chuah, Hyun-chul Kim, and Ted "Taekyoung" Kwon

Elsevier Journal of Network and Computer Applications (JNCA), Vol. 132, pp. 1, April 2019

A First Look at Certification Authority Authorization (CAA)

Quirin Scheitle, T. Chung, Jens Hiller, Oliver Gasser, Johannes Naab, Roland van Rijswijk-Deij, Oliver Hohlfeld, Ralph Holz, Dave Choffnes, Alan Mislove, and Georg Carle

ACM SIGCOMM Computer Communications Review (CCR), Vol. 48, pp. 2, Apr. 2018

An End-to-End View of DNSSEC Ecosystem Management

T. Chung, R. van Rijswijk-Deij, B. Chandrasekaran, D. Choffnes, D. Levin, B. M. Maggs, A. Mislove, and C. Wilson

USENIX Magazine ;login:, Vol. 42, No. 4, Dec. 2017

A Target-centric Surveillance System based on Localization and Social Networking

J. Han, N. Choi, T. Chung, T. Kwon, and Y. Choi
Multimedia Tools and Applications (MTAP), Vol. 73, Issue 1, pp. 241-265, Nov. 2014

Strategic Bundling for Content Availability and Fast Distribution in BitTorrent

J. Han, T. Chung, S. Kim, H. Kim, J. Kangasharju, T. Kwon, and Y. Choi
Computer Communication (COMCOM), Vol. 43, pp. 64-73, May 2014

Bundling Practice in Bittorrent: What, How, and Why

J. Han, S. Kim, T. Chung, T. Kwon, H. Kim, and Y. Choi
ACM SIGMETRICS Performance Evaluation Review, Vol. 40, No. 1, pp. 77-88, Jun. 2012.

How Prevalent is Content Bundling in BitTorrent?

J. Han, T. Chung, S. Kim, T. Kwon, H. Kim, and Y. Choi
ACM SIGMETRICS Performance Evaluation Review, Vol. 39, No. 1, pp. 319-320, Jun. 2011.

Posters

SIGCOMM'17	**The Root Canary: Monitoring and Measuring the DNSSEC Root Key Rollover** R. van Rijswijk-Deij, T. Chung, D. Choffnes, A. Mislove, and W. Toorop SIGCOMM, Los Angeles, CA, USA, Aug. 2017
ACNS'14	**Toward Terabyte-scale Caching with SSD in a Named Data Networking Router** W. So, T. Chung, H. Yuan, D. Oran, and M. Stapp ANCS, Marina del Rey, CA, USA, Oct. 2014
PAM'13	**Spatial and Temporal Locality of Swarm Dynamics in BitTorrent** T. Chung, J. Han, H. Lee, J. Kangasharju, T. Kwon, and Y. Choi PAM, Hong Kong, March. 2013.

Non-Refereed Conference Publications

TPRC'17	**Investigating End-To-End Integrity Violations in Internet Traffic** A. Mislove, D. Choffnes, and T. Chung TPRC, Arlington, VA, USA, Sept. 2017

Fellowships

2012–2016	**Samsung Ph.D. Industrial Scholarship**.
2010–2012	**Hyundai (Hajung) Scholarship**.
Summer 2007	**POSTECH Student Exchange Program to UCLA**.
2005–2008	**National Science & Technology Scholarship, KOSAF(Korea Student Aid Foundation)**.

Project Experience

06/2015–06/2016	**Personal Recommendation System and Privacy Protection through Big Data Analysis on Online Social Networks**
	National Research Foundation of Korea (NRF)
09/2012–06/2013	**Networking Content Delivery Optimization**
	SAMSUNG Electronics
03/2011–02/2014	**Fundamental Research on In-network Caching and Routing for Named-data Networking**
	Korea Communications Agency (KCA)
07/2010–12/2012	**Future Internet Service Demonstration: Internet Video Diary**
	Korea Internet & Security Agency (KISA), Korea

Service

Program Committee Member.

'19	Program Committee of International Conference on Social Informatics (SocInfo)
'19	Program Committee of The Passive and Active Measurement (PAM)
'19	Program Committee of International AAAI Conference on Web and Social Media (ICWSM)
'18	Program Committee of International AAAI Conference on Web and Social Media (ICWSM)
'17	Program Committee of International AAAI Conference on Web and Social Media (ICWSM)
'17	Program Committee of IEEE International Conference on Ubiquitous Computing and Communications (IUCC)
'14	Poster Selection Committee of ACM/IEEE Symposium on Architectures for Networking and Communications Systems (ANCS)

Shadow Program Committee Member.

'18	ACM Internet Measurement Conference (IMC)
'17	ACM Internet Measurement Conference (IMC)

Web Chair.

'19	ACM Internet Measurement Conference (IMC)

Registration Chair.

'18	ACM Internet Measurement Conference (IMC)

Reviewer.

'19	IEEE/ACM Transactions on Networking
'19	ACM Transactions on Privacy and Security

Talks

01/07/2019	Korea Advanced Institute of Science and Technology (KAIST)
12/27/2018	Sungkyunkwan University (SKKU)
11/16/2018	GCCIS PhD Colloquium Series at Rochester Institute of Technology (RIT)
11/05/2018	ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)
11/01/2018	ACM Internet Measurement Conference (IMC)
09/14/2018	Great Lakes Security Day (GLSD)
06/29/2018	Sonos at Boston
05/30/2018	Graduate School of Information Security at Korea University
03/21/2018	Department of Computer Science and Engineering at Washington University in St. Louis (WUSTL)
02/28/2018	Department of Computer Science at Rochester Institute of Technology (RIT)
11/02/2017	ACM Internet Measurement Conference (IMC)
09/29/2017	New England Security Day (NESD)
09/08/2017	Research Conference on Communications, Information and Internet Policy (TPRC)
08/18/2017	USENIX Security
11/16/2016	ACM Internet Measurement Conference (IMC)
11/15/2016	ACM Internet Measurement Conference (IMC)
10/07/2016	New England Networking and Systems Day (NENS)
12/29/2014	Korea Advanced Institute of Science and Technology (KAIST)
04/10/2014	World Wide Web Conference (WWW)
05/22/2013	IFIP Networking
12/07/2011	IEEE GLOBECOM

References

Alan Mislove (amislove@ccs.neu.edu)
Associate Professor of Computer Science, Northeastern University, USA

Bruce M. Maggs (bmm@cs.cmu.edu)
Professor of Computer Science, Duke University and Vice President of Research, Akamai Technologies, USA

Dave Levin (dml@cs.umd.edu)
Assistant Professor of Computer Science, University of Maryland, USA

David Choffnes (choffnes@ccs.neu.edu)
Assistant Professor of Computer Science, Northeastern University, USA

Dave Oran (daveoran@orandom.net)
Former fellow at Cisco Systems, USA

Ted "Taekyoung" Kwon (tkkwon@snu.ac.kr)
Professor, School of Computer Science & Engineering, Seoul National University, South Korea