Seungyeop Han

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Research Interests

Distributed Systems, Computer Networking, Operating Systems, Security & Privacy

Education

University of Washington, WA

PhD in Computer Science and Engineering, expected June 2016
Advisors: Thomas Anderson, Arvind Krishnamurthy, and David Wetherall
Proposed Thesis: Efficient Security and Privacy Enhancing Solutions for Emerging Platforms

M.S. in Computer Science and Engineering, March 2012

KAIST, Korea

M.S. in Computer Science, February 2007
Advisor: Sue B. Moon
Thesis: Analysis of Blog Spams and Collaborative Blog Spam Filtering Using Adaptive Percolation Search

B.S. in Computer Science with a minor in Mathematics, February 2005
Summa Cum Laude
Studied Summer 2003 at University of California, Berkeley

Refereed Publications

[1] **Seungyeop Han**, Haichen Shen, Taesoo Kim, Arvind Krishnamurthy, Thomas Anderson, and David Wetherall. MetaSync: Coordinating storage across multiple file synchronization services. *IEEE Internet Computing*, 2016. To Appear.

[2] **Seungyeop Han**, Haichen Shen, Matthai Philipose, Sharad Agarwal, Alec Wolman, and Arvind Krishnamurthy. MCDNN: An execution framework for deep neural networks on resource-constrained devices. In *MobiSys*, 2016. To Appear.

[3] **Seungyeop Han**, Haichen Shen, Taesoo Kim, Arvind Krishnamurthy, Thomas Anderson, and David Wetherall. MetaSync: File synchronization across multiple untrusted storage services. In *USENIX ATC*, 2015.

[4] Haewoon Kwak, Jeremy Blackburn, and **Seungyeop Han**. Exploring cyberbullying and other toxic behavior in team competition online games. In *CHI*, 2015.

[5] Michael D. Ernst, René Just, Suzanne Millstein, Werner M. Dietl, Stuart Pernsteiner, Franziska Roesner, Karl Koscher, Paulo Barros, Ravi Bhoraskar, **Seungyeop Han**, Paul Vines, and Edward X. Wu. Collaborative verification of information flow for a high-assurance app store. In *CCS*, 2014.

[6] Ravi Bhoraskar, **Seungyeop Han**, Jinseong Jeon, Tanzirul Azim, Shuo Chen, Jaeyeon Jung, Suman Nath, Rui Wang, and David Wetherall. Brahmastra: Driving Apps to Test the Security of Third-Party Components. In *USENIX Security*, 2014.

[7] William Enck, Peter Gilbert, **Seungyeop Han**, Vasant Tendulkar, Byung-Gon Chun, Landon Cox, Jaeyeon Jung, Patrick McDaniel, and Anmol Sheth. TaintDroid: An Information-Flow Tracking System for Realtime Privacy Monitoring on Smartphones. *ACM Transactions on Computer Systems (TOCS)*, 32(2), 2014.

[8] **Seungyeop Han**, Rajalakshmi Nandakumar, Matthai Philipose, Arvind Krishnamurthy, and David Wetherall. Glimpsedata: Towards continuous vision-based personal analytics. In *Workshop on Physical Analytics (in conjunction with MobiSys)*, 2014.

[9] **Seungyeop Han**, Matthai Phlipose, and Yun-Cheng Ju. NLify: Lightweight spoken natural language interfaces via exhaustive paraphrasing. In *Ubicomp*, 2013. (**Honorable Mention**).

[10] **Seungyeop Han**, Vincent Liu, Qifan Pu, Simon Peter, Thomas Anderson, Arvind Krishnamurthy, and David Wetherall. Expressive privacy control with pseudonyms. In *SIGCOMM*, 2013.

[11] **Seungyeop Han** and Matthai Philipose. The case for onloading continuous high-datarate perception to the phone. In *HotOS*, 2013.

[12] Karthik Mohan, Mike Chung, **Seungyeop Han**, Daniela Witten, Su-In Lee, and Maryam Fazel. Structured learning of gaussian graphical models. In *NIPS*, 2012.

[13] Jaeyeon Jung, **Seungyeop Han**, and David Wetherall. No more blank checks: Enhancing mobile application permissions with runtime feedback and constraints. In *ACM CCS Workshop on Security and Privacy in Smartphones and Mobile Devices (SPSM)*, 2012.

[14] Vincent Liu, **Seungyeop Han**, Arvind Krishnamurthy, and Thomas Anderson. Tor instead of IP. In *HotNets*, 2011.

[15] Peter Hornyack, **Seungyeop Han**, Jaeyeon Jung, Stuart Schechter, and David Wetherall. "These aren't the droids you're looking for": Retrofitting android to protect data from imperious applications. In *CCS*, 2011.

[16] David Wetherall, Ben Greenstein, David Choffness, **Seungyeop Han**, Peter Hornyack, Jaeyeon Jung, Stuart Schechter, and Xiao Wang. Privacy revelations for web and mobile apps. In *HotOS*, 2011.

[17] Keon Jang, Sangjin Han, **Seungyeop Han**, Sue Moon, and KyoungSoo Park. SSLShader: Cheap SSL acceleration with commodity processors. In *NSDI*, 2011.

[18] Yong-Yeol Ahn, **Seungyeop Han**, Haewoon Kwak, Sue Moon, and Hawoong Jeong. Analysis of topological characteristics of huge online social networking services. In *WWW*, 2007.

[19] Haewoon Kwak, **Seungyeop Han**, Yong yeol Ahn, Sue Moon, and Hawoong Jeong. Impact of snowball sampling ratios on network characteristics estimation: A case study of Cyworld. In *Korea Information Science Society Fall conference*, 2006.

[20] **Seungyeop Han**, Yong-Yeol Ahn, Sue Moon, and Hawoong Jeong. Collaborative blog spam filtering using adaptive percolation search. In *Workshop on the Weblogging Ecosystem*, 2006.

[21] Hee-Kyoung Jung, Tek-Jin Nam, Ho-Sung Lee, and **Seungyeop Han**. Spray modelling: Augmented reality based 3d modeling interface for intuitive and evolutionary form development. In *ICAT*, 2004.

Poster, Demo, Technical Report

[1] **Seungyeop Han**, Matthai Philipose, and Yun-Cheng Ju. NLify: Mobile spoken natural language interfaces for everyone. In *HotMobile Demo Session*, 2013.

[2] Vincent Liu, **Seungyeop Han**, Adam Lerner, Arvind Krishnamurthy, and Thomas Anderson. An Internet architecture based on the principle of least privilege. Technical Report UW-CSE-12-09-05, 2012.

[3] **Seungyeop Han**, Jaeyeon Jung, and David Wetherall. An empirical study of third-party tracking by mobile applications in the wild. In *NSDI Poster Session*, 2012.

[4] **Seungyeop Han**, Jaeyeon Jung, and David Wetherall. A study of third-party tracking by mobile apps in the wild. Technical Report UW-CSE-12-03-01, 2012.

[5] Keon Jang, Sangjin Han, **Seungyeop Han**, Sue Moon, and KyoungSoo Park. Accelerating SSL with GPUs. In *SIGCOMM Poster Session*, 2010. (**Best Poster Award**).

Patents

Yun-Cheng Ju, Matthai Philipose, **Seungyeop Han**.
Facilitating development of a spoken natural language interface.
US Patent Application #20140244254, Submitted.

Young Su Ko, **Seungyeop Han**, Jung Woo Seo.
System and Method for Collecting Document.
US Patent US8930343 B2.

Teaching Expereiences

Teaching Assistant, University of Washington *Spring 2016*
Operating Systems (CSE451)

Tutor, University of Washington *Winter 2016*
Data Abstraction (CSE332)

Seminar Coordinator, University of Washington *Fall/Winter 2014–2015*
Networks Seminar (CSE590L)

Teaching Assistant, University of Washington *Fall 2010*
Network Systems (CSEP561)

Teaching Assistant, KAIST *Mar. 2005 – Feb. 2007*
Introduction to Computer Networking (CS441), Special Topics in Computer Science - Wireless and Mobile Computing (CS492), Introduction to Computer Programming (CS101)

Work Experiences

Microsoft Research (Mobility & Networking Research Group), Redmond, WA
Contracted Software Engineer via Populus Group Inc. *Mar. 2015 – Jun. 2015*
Worked on MCDNN projects, which supports efficient deep neural network classification tasks across mobile device and the cloud.

Google Inc. (Google[x]), Mountain View, CA
Software Engineering Intern *Jun. 2014 – Sep. 2014*
Details are undisclosed due to NDA.

Telefonica I+D, Barcelona, Spain
Research Intern *Apr. 2013 – Jul. 2013*
Worked on application migration between smartphones and computers. I explored the design for migration platform with FirefoxOS phones.

Microsoft Research (Mobility & Networking Research Group), Redmond, WA
Contracted Researcher via Nytec Inc. *Oct. 2012 – Mar. 2013*
Research Intern *Jun. 2012 – Sep. 2012*
Worked on NLify project, which enables third party smartphone applications to interact users via spoken natural language. I designed and implemented development supporting tools well integrated with Visual Studio, and workflow including specifying spoken language usages, amplifying them, and converting into Windows Phone application control.

Forward Ventures LLC., Seoul, Korea
Contracted Software Dev Lead *Aug. 2010 – Sep. 2010*
Architected and developed a social commerce website, http://coupang.com. Until the launch of the service and for the first month of operation, I worked as a single developer.

Naver Corp. (formerly NHN Corp.), Korea
Software Engineer, Open UI Tech. Team *Sep. 2009 – Aug. 2010*
Developed an open source web site builder, XpressEngine.

Software Engineer, P2P Platform Development Team *Feb. 2007 – Sep. 2009*
Developed P2P platform libraries. The main component of the libraries was a P2P connector enabling applications to establish reliable connections between peers. In addition, I participated in designing systems and algorithms for optimal peer selection, P2P livecast and VoD service.

Microsoft Research Cambridge, UK
Research Intern *Sep. 2006 – Dec. 2006*
Designed and evaluated spatial sampling algorithms for end-system network monitoring in enterprise network by exploiting existence of heavy-hitters.

Honors and Awards

- Doctoral Study Abroad Scholarship, The Korea Foundation for Advanced Studies (KFAS), 2010 – 2015
- Honorable Mention Award, Ubicomp, 2013
- Best Poster Award, SIGCOMM, 2010
- Outstanding master's thesis, Computer Science, KAIST, 2007
- *Summa Cum Laude*, KAIST, 2005
- Honorable Mention Award, ICAT, 2004
- Kim, Younghan Global Leader Scholarship, KAIST, 2002–2004

Services

- Reviewer: ACM Ubicomp (2014–2016), IEEE Transaction on Mobile Computing (2015), IEEE ICNP (2015), ACM SIGMOBILE MC^{2}R (2013)
- PC Member: ACM S3 Workshop (2013)
- Student Reviewer, CSE Graduate Admission Committee (2014–2016)

References

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Dr. David Wetherall
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Dr. Matthai Philipose
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