

Education

University of Illinois at Urbana-Champaign, USA, Aug. 2014 – present

Ph.D. Candidate in Electrical and Computer Engineering

Advisor: Lav R. Varshney

KAIST (Korea Advanced Institute of Science and Technology), Korea, Mar. 2008 – Feb. 2010

M.S. in Electrical Engineering

Advisor: Sae-Young Chung

Thesis: Achievable schemes on Z-interference channels with finite conferencing link

KAIST (Korea Advanced Institute of Science and Technology), Korea, Mar. 2004 – Feb. 2008

B.S. in Electrical Engineering (*summa cum laude*)

Research Interests

My research focuses on fundamental studies of information systems. Broadly I am interested in **Information Theory**, **Machine Learning**, and **Computational Biology**. Topics I am currently interested in are Shannon's capacity analysis for non-i.i.d. channels and Bayesian optimization process in material discovery.

Work Experience

LG Electronics, Oct. 2011 – May. 2014

- Development of 3GPP LTE-Advanced standard

KAIST Institute, Mar. 2010 – Sep. 2011

- Development of near-field communication HW / SW modules
- Development of wireless power transfer systems for contactless electrical buses

Publications

Journal Papers

- Avhishek Chatterjee, **Daewon Seo**, Lav R. Varshney, "Capacity of Systems with Queue-Length Dependent Service Quality," IEEE transactions on Information Theory, to appear

Daewon Seo

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Last update: May 11, 2017

- **Daewon Seo**, Sang-Woon Jeon, Sae-Young Chung, and Junmo Kim, "Rate Enhancement for the Gaussian Z-interference Channel with Transmitter Cooperation," IEEE Communications Letters, vol. 14, no. 9, pp. 821-823, Sep. 2010

Conference Papers

- Avhishek Chatterjee, **Daewon Seo**, and Lav R. Varshney, "Capacity of Systems with Queue-Length Dependent Service Quality," International Symposium on Information Theory and Its Applications (ISITA) 2016, Monterey, California, 30 Oct. - 2 Nov. 2016
- **Daewon Seo**, Lav R. Varshney, "Information-Theoretic Limits of Algorithmic Noise Tolerance," IEEE International Conference on Rebooting Computing (ICRC 2016), San Diego, Oct. 2016
- Sang-Woon Jeon, Sung Hoon Lim, Bang Chul Jung, and **Daewon Seo**, "Opportunistic Noisy Network Coding for Fading Parallel Relay Networks," IEEE Globecom, Dec. 2011
- Seong-Jeub Jeon, Boyune Song, Jaegue Shin, **Daewon Seo**, Sung Jun Son and Dong Ho Cho, "Pickup with Compensation Winding for KAIST OLEV," in Proc. KIEE Summer Conf., Jul. 2011

Patents

US patents: 6 granted / 15 filed

Korean patents: 15+ granted

Skills

Programming Tools: C, C++, Java, MATLAB, R, Python, Verilog

Language: English, Korean (native)