Inho Hong

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Pohang, Gyeongbuk 37673, Republic of Korea

Personal Information

Date of Birth: 11/16/1988
Gender: M
Citizenship: Republic of Korea

Education

Pohang University of Science and Technology
Ph.D. Candidate, Physics (Expected to Graduate in February 2019).
Fields: Complex Systems, Data Science, Network Science, Statstical Physics

Pohang University of Science and Technology
M.S., Physics, 2012.

Pohang University of Science and Technology
B.S., Physics, 2010.

Research Interests

Modeling Universal Patterns in Urban Economy Data
I. Hong, M. R. Frank, I. Rahwan, W.-S. Jung, H. Youn, A common trajectory recapitulated by urban economies.
Human Mobility Models and Their Application to Real Data
I. Hong, W.-S. Jung, H.-H. Jo, Gravity model explained by the radiation model on a population landscape, *submitted to Physical Review E*, *arXiv:1803.09067*.
Evolution of Knowledge Structure through Collaborations of Researchers
H. Kim, I. Hong, W-S. Jung, Knowledge structure of nuclear fusion research.

Strong Points

Wide Coverage of Analysis
Numerical simulation, theoretical modeling and data analysis including network analysis, time-series analysis and statistics.

Experience on Various Multidimensional and Large-Scale Data
Multidimensional urban employment data, transportation data scrapped from web, large-scale simulated data and large-scale publication data.

Simplifying Patterns and Deriving Insight from Data

Trained in the joint laboratory of physics and industrial engineering, and long-term visiting experience to the top business school in the US.

Research Experience

Kellogg School of Management, Northwestern University, USA
Visiting Predoctoral Fellow, October 2017-Present.

Harvard Kennedy School, Harvard University, USA
Visiting graduate student, June 2017.

Santa Fe Institute, USA
Visiting graduate student, February 2016.

Aalto University, Finland
Visiting graduate student, February 2015.

Teaching Experience

Department of Physics, POSTECH
Teaching assistant, Analytical Mechanics, Spring 2013.
Teaching assistant, Electrodynamics I, Spring 2011.
Teaching assistant, Electronics & Instrumentation Lab, Fall 2010.
Teaching assistant, Electronics & Instrumentation Lab, Spring 2010.

Project Experience

Physicia Upgrade
Upgrade and develop educational software "Physicia" for demonstrating simulations on statistical physics and nonlinear dynamics, March 2016 - September 2016, [LINK].

Awards and Fellowships

Global Ph.D. Fellowship Program
National Research Foundation of Korea (NRF), March 2014–February 2017.

Samsung Undergraduate Scholarship
Samsung Electro-Mechanics, March 2006-February 2010.

Excellent Poster Presentation Award
2017 Korean Physical Society Spring Meeting, April 2017.

Excellent Oral Presentation Award
2016 Korean Physical Society Fall Meeting, October 2016.

Excellent Poster Presentation Award
2013 Korean Physical Society Fall Meeting, October 2013.

Excellent Teaching Assistant Award
Electronics & Instrumentation Lab, Dept. of Physics, POSTECH, Fall 2010.

Excellent Teaching Assistant Award
Electronics & Instrumentation Lab, Dept. of Physics, POSTECH, Spring 2010.

Best Paper Award
Undergraduate Research Program, POSTECH, 2009.

Excellent Bachelor Thesis Award
Dept. of Physics, POSTECH, 2009.

Skills and Languages

MATLAB, Python, C
Korean (native), English (advanced)

Publications

- I. Hong, W.-S. Jung, Application of gravity model on the Korean urban bus network, *Physica A* **462**, 48-55 (2016).
- S. Lee, I. Hong, W.-S. Jung, A network approach to the transfer market of European football leagues, *New Physics: Sae Mulli* **65**, 402-409 (2015).
- I. Hong *et al.*, Evaluation of the imaging properties of Microwave Imaging Reflectometry, *Journal of Instrumentation* **7**, C01077 (2012).
- W. Lee *et al.*, Microwave imaging reflectometry system for KSTAR, *Plasma and Fusion Research* **6**, 2402037-2402037 (2011).
- W. Lee *et al.*, Comparative study between the reflective optics and lens based system for microwave imaging system on KSTAR, *Review of Scientific Instruments* **81**, 10D932 (2010).
- H. K. Park *et al.*, Microwave imaging reflectometry studies for turbulence diagnostics on KSTAR, *Review of Scientific Instruments* **81**, 10D933 (2010).
