

# Sang Pil Han

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Department of Information Systems  
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## EDUCATION

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**Korea Advanced Institute of Science and Technology**, Seoul, Korea August 2008  
Ph.D. in Management Engineering  
*Dissertation: "A Statistical Modeling Approach to Customer Acquisition and Retention"*

**Korea Advanced Institute of Science and Technology**, Seoul, Korea January 2002  
Masters in Management Engineering

**Korea Advanced Institute of Science and Technology**, Daejeon, Korea January 2000  
Bachelor of Engineering, Industrial Management

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## ACADEMIC EXPERIENCE

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**Assistant Professor**, College of Business, City University of Hong Kong Sep 2011 –

**Postdoctoral Researcher**, Stern School of Business, New York University Sep 2008 – Aug 2011

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## PROFESSIONAL EXPERIENCE

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**Research Intern**, AT&T Labs Research, New Jersey, USA Jun 2007 – Aug 2007

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## RESEARCH EXPERTISE

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### Research Areas

Mobile Analytics, Mobile Advertising and Commerce, Mobile Healthcare, Business Intelligence

### Research Methods

Econometric Analysis, Structural Modeling (Empirical IO), Hierarchical Bayesian Modeling

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## REFEREED JOURNAL PUBLICATIONS

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- “How is the Mobile Internet Different? Search Costs and Local Activities,” with Anindya Ghose and Avi Goldfarb. Forthcoming, *Information Systems Research (ISR)*, 2012.
- “A Social Network-Based Inference Model For Validating Customer Profile Data,” with Wonseok Oh, Sung-Hyuk Park, and Soonyoung Huh. *Management Information Systems Quarterly (MISQ) Special Issue on Business Intelligence Research*, 36(4), 2012, 1217-1237.
- “An Empirical Analysis of User Content Generation and Usage Behavior on the Mobile Internet,” with Anindya Ghose, *Management Science*, 57(9), 2011, 1671-1691.
- “The Effects of Visual Stimuli in Internet Banner Ads: The Moderating Role of Task and Complexity of Visual Stimuli,” with Jae-Hyeon Ahn and JooWon Lee, *Korean Marketing Research Journal* (in Korean), 24(4), 2009, 67-86.
- “Customer Churn Analysis: Churn Determinants and Mediation Effects of Partial Defection in Korean Mobile Telecommunications Service Industry,” with Jae-Hyeon Ahn and Young-Seop Lee, *Telecommunications Policy* 30(10/11), 2006, 552-568.

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## WORKING PAPERS

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- “Estimating Demand for Mobile Apps in the New Economy,” with Anindya Ghose. Under 2rd round review at *Management Science* special issue on Business Analytics.
- “An Empirical Analysis of Network Characteristics and Social Contagion on the Mobile Internet,” with Anindya Ghose and Raghuram Iyengar. Under major revision for 2rd round review at *Information Systems Research (ISR)*.
- “Analyzing the Interdependence between Web and Mobile Advertising,” with Anindya Ghose and Sung-Hyuk Park. Under major revision for 2rd round review at *Journal of Marketing Research (JMR)*.
- “From Accuracy to Diversity: Empirical Analysis of the Relationship between Product Diversity and Consumers’ Long-term Performance” with Sung-Hyuk Park. Under 2<sup>nd</sup> round review at *International Journal of Electronic Commerce* special issue on Social Technology Enabled Business Value Creation.
- “Mobile Commerce in the New Tablet Economy,” with Anindya Ghose and Kaiquan Xu.
- “A Structural Model of User Behavior and Dynamics in Mobile Digital Content,” with Anindya Ghose. In preparation to submit to *Management Science*.
- “An Empirical Analysis of the Relationship between Display and Sponsored Search Advertising,” with Anindya Ghose and Avi Goldfarb.
- “Economic Impact of User Acquisition Channel to a New High-Tech Service: an Empirical Analysis of Voice over Internet Protocol (VOIP) Service,” with Jae-Hyeon Ahn.
- “Intelligent Customer Service Operation: Personalized Email Customer Service,” with Wenling Hsu and Ann Skudlark.

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## WORK IN PROGRESS

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- “Dynamics in Mobile App Usage,” with Chy Heon Kim and Wonseok Oh. Data analysis in progress.
- “Mobile Website vs. Mobile App: Which is Best for Your Advertisement?” with Chy Heon Kim and Wonseok Oh. Data analysis in progress.
- “Mobile Consumer Search Behaviors,” with Anindya Ghose. Data analysis in progress.
- “An Empirical Analysis of Economic and Social Value of Mobile Healthcare IT” with Dongsong Zhang. Data collection in progress.
- “The Impact of Advertising Creative in Online and Mobile Advertisement: A Randomized Field Experiment,” with Ting Li. Data collection in progress.

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## BOOK CHAPTERS

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- “Marketing in the New Mobile Economy,” with Anindya Ghose. in K. Coussement, K.W. De Bock and Scott A. Neslin (Eds.), *Advanced Database Marketing: Innovative Methodologies & Applications for Managing Customer Relationships*, Gower Publishing, London (United Kingdom) (2013, forthcoming).
- “Consumer Preference for New Wireless Data Services,” with Jae-Hyeon Ahn, Kyung-Yong Jee, and Moon-Koo Kim, *The Economics of Online Markets and ICT Networks*, R. Cooper, G. Madden, A. Lloyd, M. Schipp (Editors) Physica-Verlag, 2006.
- “Convergence Phenomenon and New Service Development in the Telecommunications Industry,” with Jae-Hyeon Ahn and Ann Skudlark, *Global Economy and Digital Society*, E. Bohlin, S. Levin, N. Sung, and C-H. Yoon (Editors) Elsevier, 2004.

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## REFEREED CONFERENCE AND WORKSHOP PUBLICATIONS

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- “Estimating Demand for Applications in the New 'Mobile' Economy,” with Anindya Ghose, Proceedings of *International Conference on Information Systems (ICIS 2012)*, Orlando, USA, December, 2012.
- “Analyzing the Differences Between the Mobile Web and the PC Web: Search Costs and Local Activities,” with Anindya Ghose and Avi Goldfarb, Proceedings of *International Conference on Information Systems (ICIS 2011)*, Shanghai, China, December, 2011.
- “Network Stability and Social Contagion: An Empirical Analysis in the Mobile Internet,” with Anindya Ghose and Raghuram Iyengar, Proceedings of *International Conference on Information Systems (ICIS 2011)*, Shanghai, China, December, 2011.
- “Analyzing the Impact of Social Networks, Spatial Networks, and Geographical Mobility on User Behavior in the Mobile Internet,” with Anindya Ghose, Proceedings of the *Workshop on Information Technologies and Systems (WITS 2010)*, St. Louis, MO, December, 2010.
- “Search Costs and Benefits on the Mobile Internet: A Comparison of Micro-blogging Responses on Mobile Devices and PCs,” with Avi Goldfarb and Anindya Ghose, Proceedings of the *Conference on Information Systems and Technology (CIST 2010)*, Austin, Texas, November, 2010.
- “An Empirical Analysis of User Content Generation and Usage Behavior in Mobile Digital Media,” with Anindya Ghose, *International Conference on Information Systems (ICIS 2009)*, Phoenix, Arizona, December, 2009.

- "Preprocessing Uncertain User Profile Data: Inferring User's Actual Age from Ages of User's Neighbors," with Sung-Hyuk Park, Soon-Young Huh, and Ho-Jin Lee, *Proceedings of IEEE International Conference on Data Engineering (ICDE 2009)*, Shanghai, China, March, 2009.
- "Preprocessing Uncertain User Profile Data: Inferring a User's Actual Age from Ages of the User's Local Network Neighbors," with Sung-Hyuk Park, in *Proceedings of the Advanced Information Networking and Applications (AINA 2009)*, Bradford, UK, May, 2009.

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## PAPERS IN CONFERENCE AND WORKSHOP PROGRAMS

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- "An Empirical Analysis of Digital Advertising," *2013 Workshop on Analytics for Business, Consumer and Social Insights (BCSI 2013)*, Singapore, August, 2013.
- "Mobile Commerce in the New Tablet Economy," with Anindya Ghose and Kaiquan Xu, *Statistical Challenges in Electronic Commerce Research (SCECR 2013)*, Lisbon, Portugal, June, 2013.
- "An Empirical Analysis of Digital Advertising," *11th ZEW Conference on the Economics of Information and Communication Technologies (ZEW 2013)*, Mannheim, Germany, June, 2013.
- "Estimating Demand for Applications in the New Mobile Economy," with Anindya Ghose, *INFORMS Annual Meeting IS Cluster*, Phoenix, USA, October, 2012.
- "Analyzing the Interrelationship between Online and Mobile Advertisement," with Anindya Ghose and Sunghyuk Park, *INFORMS Annual Meeting IS Cluster*, Phoenix, USA, October, 2012.
- "Empirical Analysis of the Impact of Product Diversity on Long-Term Performance of Recommender Systems," with Sunghyuk Park, *Annual International Conference on Electronic Commerce (ICEC 2012)*, Singapore, August, 2012.
- "Mobile Advertising and App Adoption in the New Mobile Economy," with Anindya Ghose, *Statistical Challenges in Electronic Commerce Research (SCECR 2012)*, Montreal, Canada, June, 2012.
- "Consumer Surplus in the New Mobile Economy: Estimating Demand for Mobile Apps," with Anindya Ghose, *INFORMS Marketing Science Conference*, Boston, USA, June, 2012.
- "Tie Strength and Network Closure on the Mobile Internet," with Anindya Ghose, Raghuram Iyengar, *INFORMS Marketing Science Conference*, Boston, USA, June, 2012.
- "Consumer Surplus in the New Mobile Economy: Estimating Demand for Mobile Applications," with Anindya Ghose, *Application of the Web Workshop (AppWeb 2012)*, Lyon, France, April, 2012.
- "Consumer Surplus in the New Mobile Economy: Estimating Demand for Mobile Apps," with Anindya Ghose and Sung-Hyuk Park, *Annual International Industrial Organization Conference (IIOC 2012)*, Washington DC, USA, March, 2012.
- "Analyzing the Impact of Network Stability on Social Contagion: An Empirical Analyses of Mobile Internet User Behavior," with Anindya Ghose, *Workshop on Information Systems and Economics (WISE 2011)*, Shanghai, China, December, 2011.
- "How is the Mobile Internet Different? Search Costs and Local Activities," with Anindya Ghose and Avi Goldfarb, *Summer Institute in Competitive Strategy (SICS)*, Berkeley, California, July, 2011.
- "An Empirical Analysis of the Relationship between Display and Sponsored Search Advertising," with Anindya Ghose and Avi Goldfarb, *Wharton Customer Analytics Initiative-Organic Research Conference*, Philadelphia, Pennsylvania, July, 2011.

- “How is the Mobile Internet Different? Search Costs and Local Activities,” with Anindya Ghose and Avi Goldfarb, *Second Annual Conference on Internet Search and Innovation*, Chicago, Illinois, June, 2011.
- “How is the Mobile Internet Different? Search Costs and Local Activities,” with Anindya Ghose and Avi Goldfarb, *INFORMS Marketing Science Conference*, Houston, Texas, June, 2011.
- “How is the Mobile Internet Different? Search Costs and Local Activities,” with Anindya Ghose and Avi Goldfarb, *Statistical Challenges in Electronic Commerce Research (SCECR 2011)*, Rio de Janeiro, Brazil, June, 2011.
- “Search Costs and Benefits on the Mobile Internet: An Empirical Analysis of Microblogging Behavior,” with Avi Goldfarb and Anindya Ghose, *Workshop on Information Systems and Economics (WISE 2010)*, St. Louis, MO, December, 2010.
- “Search Costs and Benefits on the Mobile Internet: An Empirical Analysis of Microblogging Behavior,” with Avi Goldfarb and Anindya Ghose, *Marketing Science Institute and Wharton Interactive Media Initiative Conference on the Modeling Cross-Platform and Multi-channel Customer Behavior (MSI-WIMI 2010)*, Philadelphia, Pennsylvania, December, 2010.
- “An Empirical Analysis of User Behavior in Micro-Blogging Platforms: The Impact of Social and Spatial Networks on Brand Value,” with Anindya Ghose, *Statistical Challenges in Electronic Commerce Research (SCECR 2010)*, Austin, Texas, June, 2010.
- “User Content Generation and Usage Behavior in Mobile Multi-media Settings: A Dynamic Structural Model of Learning,” with Anindya Ghose, *International Industrial Organization Conference (IIOC 2010)*, Vancouver, Canada, May, 2010.
- “A Structural Model of User Learning and Dynamics in Mobile Phone Content Services,” with Anindya Ghose, *NET Institute*, New York, New York, April, 2010.
- “Dynamic Structural Model of User Learning in Mobile Media Content,” with Anindya Ghose, *Workshop on Information Systems and Economics (WISE 2009)*, Phoenix, Arizona, December, 2009.
- “User content generation and usage in digital media: Interdependencies, social networks, and mobile advertising,” with Anindya Ghose, *Marketing Science Institute and Wharton Interactive Media Initiative Conference on the Emergence and Impact of User-Generated Content (MSI-WIMI 2009)*, Philadelphia, Pennsylvania, December, 2009.
- “An Empirical Analysis of User Content Generation and Usage Behavior in Mobile Media,” *Workshop on the Potential of Social Software for Knowledge Creation and Economic Performance (ZEW-KMRC 2009)*, Mannheim, Germany, Nov, 2009.
- “A Structural Model of Learning and Dynamics in Mobile Media Content: User Learning from Own Usage and Via Social Networks,” with Anindya Ghose, in poster session of *Workshop on Information in Networks (WIN 2009)*, New York, USA, September, 2009.
- “A Structural Model of User Learning in Mobile Digital Media: The Value of Direct Experience vs. Word-of-Mouth Effect,” with Anindya Ghose, *Marketing Dynamics Conference*, New York, USA, August, 2009.
- “User-Generated Content in Mobile Digital Media: Modeling Interdependencies, Social Effects and Geographical Mobility,” with Anindya Ghose, *Statistical Challenges in Electronic Commerce Research (SCECR 2009)*, Pittsburgh, Pennsylvania, May, 2009.
- “Personalizing Customer Service via Email,” with Wenling Hsu and Ann Skudlark, *Frontiers in Service Conference*, Washington D.C., October, 2008.
- “Personalizing Customer Service in the Email Channel,” with Jae-Hyeon Ahn, *INFORMS Marketing Science Conference*, Vancouver, Canada, June, 2008.

- “A Self-Selection Bias in Evaluating Impact of Acquisition Channels on Customer Retention,” with Jae-Hyeon Ahn and Dong-Joo Lee, *Frontiers in Service Conference*, San Francisco, California, October, 2007.
- “Impact of Customer Acquisition Channel on High Tech Services – Using VoIP as an Example,” with Jae-Hyeon Ahn, Dong-Joo Lee, and Ann Skudlark, *International Telecommunications Society (ITS) European Regional Conference*, Istanbul, Turkey, October, 2007.
- “A Self-Selection Problem in Appraising the Effect of a Firm’s Customer Contact Channels on Customer Retention”, with Jae-Hyeon Ahn and Dong-Joo Lee, *Korea Marketing Association Spring Conference*, Seoul, Korea, March, 2007.
- “Determinants of Early Customer Churn for Subscription-Based High-Tech Service in its Early Stage of Product Life-Cycle: With An Application of Voice over Internet Protocol (VoIP) Service,” with Jae-Hyeon Ahn and Dong-Joo Lee, *Korean Operations Research and Management Science Society Conference*, Seoul, Korea, October, 2006.
- “Consumer Post-Purchase Behaviors for VoIP Services,” with Jae-Hyeon Ahn, Dong-Joo Lee, Ann Skudlark, and Arun Bhattacharyya, *International Telecommunications Society (ITS) Biennial Conference*, Beijing, China, August, 2006.
- “Consumer Preference Analysis for Next-Generation Mobile Services Using the Multi-Attribute Evaluation Methods,” with Jae-Hyeon Ahn, Young-Suk Bang, Moon-Koo Kim, and Jong-Hyun Park, *Korea Society of Management Information Systems Conference*, Seoul, Korea, May, 2006.
- “Customer Churn Determinants and Mediation Effects of Partial Defection in the Korean Mobile Telecommunications Service Industry,” *Global Technology Management Consortium (GTMC) Doctoral Dissertation Conference*, Robert H. Smith School of Business, University of Maryland, College Park, Maryland, October, 2005.
- “Consumer Preference for New Wireless Data Services,” with Jae-Hyeon Ahn, Kyung-Young Jee, and Moon-Koo Kim, *International Telecommunications Society (ITS) Africa-Asia-Australasia Regional Conference*, Curtin University of Technology, Perth, Western Australia, August, 2005.
- “Substitutability and Complementarity Analysis using Stage Transition Diagram in the New Telecommunications Services: An Application to WiBro Service,” with Jae-Hyeon Ahn, Moon-Koo Kim, Bongwon Park, Sangyoon Lee, Young-Suk Bang, *Korean Operations Research and Management Science Society Conference*, Seoul, Korea, August, 2004.
- “Empirical Analysis of Customer Churning Behavior in the Mobile Telecommunications Industry,” with Jae-Hyeon Ahn and Myung-Soo Kim, *Decision Science Institute (DSI) International Conference*, Shanghai, China, August, 2003.
- “Convergence Phenomenon and Service-Network Matrix,” with Jae-Hyeon Ahn and Ann Skudlark, *International Telecommunications Society (ITS) Biennial Conference*, Seoul, Korea, August, 2002.

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## RESEARCH GRANTS AND AWARDS

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- **General Research Fund (GRF) from Hong Kong Research Grant Council** for “Consumer Surplus in the New Mobile Economy: Estimating the Value of Mobile Applications,” \$38,000 (HK\$296,050), June, 2012.
- **Wharton Customer Analytics Initiative (WCAD) Grant on Innovative Approaches to Measuring Advertising Effectiveness** for “Analyzing the Interrelationship between Online and Mobile Advertisements using: Randomized Field Experiments and Large-Scale Archival Data,” with Anindya Ghose, \$6,000, June, 2012.
- **Marketing Science Institute and Wharton Interactive Media Initiative (MSI-WIMI) Grant** for “Modeling Consumer Behavior in Social Media: Analyzing the Role of Geographical Location and Multichannel Usage in

Microblogging Platforms,” with Anindya Ghose, \$10,000, July, 2010.

- **NET (Network, Electronic Commerce, and Telecommunications) Institute Grant** for “A Structural Model of User Learning and Dynamics in Mobile Phone Content Services,” with Anindya Ghose, \$3,000, July, 2009.
- **Marketing Science Institute and Wharton Interactive Media Initiative (MSI-WIMI) Grant** for “User Content Generation and Usage in Digital Media: Interdependencies, Social Networks and Mobile Advertising,” with Anindya Ghose, \$6,500, March, 2009.
- **Korea Research Foundation Grant** for “Analysis and Application of EconoMining using Consumer-Created Text Information on the Web,” \$20,000, August, 2008.
- **KAIST Graduate School of Management Doctoral Student Conference**, 1<sup>st</sup> Place, \$3,000, August, 2005.
- **International Telecommunications Society (ITS) 14th Biennial Conference Student Paper Competition**, 1<sup>st</sup> Place, \$500, August, 2002.

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## **TEACHING**

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- *Instructor & Lecturer.* Business Analytics for Marketing (Undergraduate at CityU), Spring 2013.
- *Instructor & Lecturer.* Social Media and Social Networks (Undergraduate at CityU), Spring/Fall 2012.
- *Instructor & Lecturer.* Ecommerce and Social Media (Undergraduate at NYU Stern), Fall 2010.
- *Teaching Assistant.* Electronic Commerce (Undergraduate at NYU Stern), Fall 2008, Fall 2009.
- *Instructor & Lecturer.* Business Statistics (Undergraduate at University of Seoul), Spring 2007.
- *Instructor & Lecturer.* Business Statistics (Undergraduate at University of Seoul), Fall 2006.

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## **INVITED TALKS**

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- Rotterdam School of Management, Erasmus University, Jun. 2013.
- College of Engineering and Information Technology, University of Maryland at Baltimore County, Dec. 2012.
- Schulich School of Business, York University, Dec. 2012.
- School of Business, Nanjing University, Nov. 2012.
- School of Business, Yonsei University, Oct. 2012.
- College of Business, City University of Hong Kong, Feb. 2011.
- Haskayne School of Business, University of Calgary, Feb. 2011.
- School of Management, University of Texas at Dallas, Jan. 2010.
- Carlson School of Management, University of Minnesota, Feb. 2010.
- Robert H. Smith School of Business, University of Maryland, Feb. 2010.

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## **PRPROFESSIONAL SERVICES**

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- **Associate Editor**  
International Conference on Information Systems (ICIS) 2012, 2013
- **Program Committee Member**  
Conference on Information Systems and Technology (CIST) 2009, 2011  
ACM Conference on Electronic Commerce (ACM EC) 2012, 2013
- **Session Chair**  
Conference on Information Systems and Technology (CIST) 2009
- **Reviewer**  
Management Science  
Management Information Systems Quarterly (MISQ)  
Information Systems Research (ISR)  
Journal of Marketing Research (JMR)  
International Conference on Information Systems (ICIS)  
ACM Conference on Electronic Commerce  
ACM Transactions on Management Information Systems  
Electronic Markets  
International Conference on Electronic Commerce (ICEC)
- **Session Discussant**  
Workshop on Information Systems and Economics (WISE), 2008  
Conference on Information Systems and Technology (CIST), 2009

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## **COURSEWORK**

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- **Empirical Methods (NYU and Columbia)**  
Applied Econometrics (William Greene)  
Econometric Analysis of Panel Data (William Greene)  
Empirical Industrial Organization (Yi Daniel Xu)  
Bayesian Modeling and Computation in Marketing (Asim Ansari)  
Computational Methods for Bayesian Inference (Michael Johannes)
- **Empirical Methods (KAIST)**  
Econometrics  
Multivariate Statistical Analysis  
Probability Models and Stochastic Processes  
Statistical Decision Analysis and Forecasting



Probability and Statistics

- **Analytical Methods (KAIST)**

Microeconomic Analysis

Game Theory

Industrial Organization

Mathematical Programming

Decision Analysis Theory and Application

Agent-based Simulation

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**TECHNICAL SKILLS**

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- **Programming Languages**

Fortran, C/C++, JAVA, Visual Basic, HTML

- **Software Packages/ Databases**

STATA, MATLAB, R, SPSS, SAS, Mathematica, WinBUGS, Oracle, MySQL, Access