Contents

About us

Professor

Ick Hoon Jin, Ph.D.

Contact Information

Good

Bad

```
int foo() {
    int result = 4;
    return result;
}
```

```
int foo() {
    int x = 4;
    return x;
}
```

Academic Appointment

- Yonsei University, Seoul, Republic of Korea. Assistant Professor, Department of Applied Statistics, Sept. 2019 - .
- University of Notre Dame, Notre Dame, Indiana. Assistant Professor, Department of Applied and Computational Mathematics and Statistics, July 2015 - May 2019.
- The Ohio State University Wexner Medical Center, Columbus, Ohio. Research Scientist, Center for Biostatistics, September 2014 - June 2015.
- The University of Texas MD Anderson Cancer Center, Houston, Texas. Postdoctoral Fellow, Biostatistics, August 2011 - August 2014. Mentor: Dr. Ying Yuan and Dr. Peter F. Thall

Education

- Texas A&M University, College Station, Texas. Ph.D., Statistics, August 2011. Advisor: Dr. Faming Liang
- Yonsei University, Seoul, Republic of Korea. M.A., Applied Statistics, February 2006. B.A., Applied Statistics, Business Administration, February 2004.

Publications

Students are italic. for papers as corresponding author.

1. **Jin, I.H.** and Liang, F. (2013) Fitting social network models using varying truncation stochastic approximation MCMC algorithms. Journal of Computational and Graphical Statistics. Vol. 22. No. 4: pp. 927-952. **Selected JCGS highlights at the Interface 2012: Future of Statistical Computing**
2. Liang, F. and **Jin, I.H.** (2013) A Monte Carlo Metropolis-Hasting algorithms for sampling from distributions with intractable normalizing constants. Neural Computation, Vol. 25. No. 8: pp. 2199-2234.
3. **Jin, I.H.**, Yuan, Y., and Liang, F. (2013) Bayesian analysis for exponential random graph models using the adaptive exchange sampler. Statistics and Its Interface, Vol. 6: pp. 559-576.
4. **Jin, I.H.** and Liang, F. (2014) Use of SAMC for Bayesian analysis of statistical models with intractable normalizing constants. Computational Statistics and Data Analysis. Vol. 71: pp. 402-416.
5. **Jin, I.H.**, Liu, S., Thall, P. F., and Yuan, Y. (2014) Using data augmentation to facilitate conduct of phase I/II clinical trials with delayed outcomes. Journal of the American Statistical Association. Vol. 109. No. 506: pp. 525-536.
6. **Jin, I.H.**, Huo, L., Yin, G., and Yuan, Y. (2015) Phase I trial design for drug combinations with Bayesian model averaging. Pharmaceutical Statistics, Vol. 14. No. 2: pp. 109-119.
7. Liang, F., **Jin, I.H.**, Song, Q, and J.S. Liu. (2016) An adaptive exchange algo- rithm for sampling from distribution with intractable normalizing constants. Journal of the American Statistical Association. Vol. 111. No. 513: pp. 377-393.
8. **Jin, I.H.**, Yuan, Y., and Bandyopadhyay, D. (2016) A Bayesian hierarchical spatial model for dental caries assessments using non-gaussian Markov random fields. The Annals of Applied Statistics. Vol. 10. No. 2: pp. 884-905.

9. *Liu, H.*, **Jin, I.H.** and, Zhang, Z. (2018) Structural Equation Modeling of Social Networks: Speci

   cation, Estimation, and Applications. Multivariate Behavioral Research, Vol. 53. No. 5: pp.714-730. **Awarded Tanaka Award: Most Outstanding Article in Multivariate Behavioral Research Volume 53.**

10. **Jin, I.H.** and Jeon, M. (2019) A doubly latent space joint model for local item and person dependence in item response analysis. Psychometrika, Vol. 84. No. 1: pp. 236-260.

11. Nam, J. H., Yun, J., **Jin, I.H.** , and Chung, D. (2020) hubViz: A Novel Tool for Hub-centric Visualization. Chemometrics and Intelligent Laboratory Systems. Vol. 203. 104071.

12. Yun, J., Shin, M., **Jin, I.H.** , and Liang, F. (2020) Stochastic approximation Hamiltonian Monte Carlo. Journal of Statistical Computation and Simulation. Vol. 90. No. 17: pp. 3135-3156.

13. *Che, C.*, **Jin, I.H.**, and Zhang, Z. (2021) Network Mediation Analysis Using Model-based Eigenvalue Decomposition. Structural Equation Modeling. Vol. 28. No. 1: pp. 148-161.

14. *Liu, H.*, **Jin, I.H.**, Zhang, Z, and Yuan, Y. (2021) Social Network Mediation Analysis: Latent Space Approach. Psychometrika. Vol. 86. No. 1: pp. 272-298.

15. Jeon, M., **Jin, I.H.**, Schweinberger, M., and Baugh, S. (2021) Mapping unobserved item-respondent interactions: A latent space item response model with interaction map. Psychometrika. Vol. 86. No. 2: pp. 378-403.

16. Y. Zhang, S. Cao, C. Zhang, **Jin, I.H.**, and Zang, Y. (2021) A Bayesian Adaptive Phase I/II Clinical Trial Design with Late-onset Competing Risk Outcomes. Biometrics. In Press. https://doi.org/10.1111/biom.13347

17. Park, J., **Jin, I.H.** , and Schweinberger, M. (2022) Bayesian Model Selection for High-Dimensional Ising Models, with Applications to Educational Data. Computational Statistics and Data Analysis. Vol. 125: Article 107325.

18. Park, J., *Jeon, Y.*, Shin, M., Jeon, M., and **Jin, I.H.** (2021) Bayesian Shrinkage for Functional Network Models, with Applications to Longitudinal Item Response Data. Revision Journal of Computational and Graphical Statistics. Accepted. ArXiv:2006.13698.

Submitted Manuscripts

1. **Jin, I.H.**, Jeon, M., Schweinberger, M, and Lin, L. (2021) Hierarchical Network Item Response Modeling for Discovering Differences Between

Innovation and Regular School Systems in Korea. Revision Invited to Journal of Royal Statistical Society, Series C. ArXiv:1810.07876.

2. Liu, F., *Eugenio, E.*, **Jin, I.H.**, and *Bowen, C. M.* (2021) Differentially Private Synthesis of Social Network Structure via Exponential Random Graph Model. Revision Invited to Journal of Survey Statistics and Methodology.

3. **Jin, I.H.**, Liu, F., *Eugenio, E.*, Kim, J., and Liu, S. (2019) Bayesian Hierarchical Spatial Model for Small Area Estimation with Non-ignorable Non-responses and Its Applications to the NHANES Dental Caries Assessments. Revision Invited to Annals of Applied Statistics. ArXiv:1810.05297.

4. *D. Ko*, M. Jeon, S. Lee, **Jin, I.H.** , and Park. H. (2021) Hidden Structure of How Children Think about Themselves Differs from What Parents Think about Their Children. Submitted to Plos One.

5. *Jeon, Y.*, Chung, D., *Park, J.*, and **Jin, I.H.** (2021) Network-based Trajectory Topic Interaction Map for Text Mining of COVID-19 Biomedical Literature. Submitted to Annals of Applied Statistics.

6. *Kim, H.*, Jeon, Y.J., Kim, H.C., **Jin, I.H.**, and Jung, S.J. (2021) Application of latent space item response model to clustering stressful life events and Beck Depression Inventory-II: Results from Korean epidemiological survey data. Submitted to Psychological Medicine.

7. Park, J. Kang, S. and **Jin, I.H.** (2021) Control of Frequentist Type I Error Rates in Hierarchical Linear Models for Multiregional Clinical Trials Using a Bayesian Approach. Submitted to Journal of Biopharmaceutical Statistics.

8. **Jin, I.H.** , *Park, J.*, and Jeon, M. (2021) How social network influences human behavior: An integrated latent space approach. Submitted to Psychometrika.

Refereed Conference Proceeding

1. Liu, F., *Eugenio, E.*, Jin, I.H, *Bowen, C. M.* (2020) Differentially Private Generation of Social Networks via Exponential Random Graph Models, Proceedings of 2020 IEEE 44th Annual Computers, Software, and Applications Conference (COMPSAC). pp. 1695-1700.

Ongoing Project

1. *D. Ko*, **Jin, I.H.**, and Im, J. (2021) Bayesian Nonparametric quantile regression with multiple proxy variables.

2. *Park, J.*, *Hu, W.*, **Jin, I.H.**, Bakoyannis, G., Zhang, Y., and Zang, Y. (2021) Bayesian adaptive phase I/II clinical trial design with competing risk model in personalized medicine.

3. Yun, J., *Kim, H.*, Jeon, M., **Jin, I.H.** (2021) Latent Space Accumulator Model for Interactions between Items and Respondents with Response Time
4. *Hong, M.*, **Jin, I.H.**, and Lin, L. (2021) A latent space model with Gaussian process for sparse weighted network.
5. *Ko, D.*, *Park, J.*, *Park, J.*, Jeon, M., and **Jin, I.H.** (2021) LSIRM: An R Package for a Latent Space Item Response Model with an Interaction Map.
6. *You, K.*, Jeon, M., Kim, I., and **Jin, I.H.** (2021) Multiple Latent Spaces Comparisons Using the Topological Analysis.

0.0.1 Unpublished Manuscript

1. **Jin, I.H.** and Liang, F. (2009) Bayesian analysis for exponential random graph models using the double Metropolis-Hastings sampler. Technical Report 2009-097. Institute for Applied Mathematics and Computer Science, Texas A&M University.
2. *Brodersen, A.*, **Jin, I.H.**, Cheng, Y., and Jeon, M. (2021) Applying the Network Item Response Model to Student Assessment Data. ArXiv:2003.07657.

Editorial Service

- Associate Editor, Communications for Statistical Applications and Methods, 2017 -

Grant Proposal

- University of Notre Dame, Center for Informatics and Computational Sciences (2018 Seed Grant). "Incorporating Uncertainty in Plant Growth into Models of Coastal Sediment Accretion." Role: Co-PI, Funded, $32,000.
- Yonsei University, Research Grant for New Faculty. "Latent Space Rasch Model: Binary Item Response Matrix Using Network Modeling." 2019-2021. Role: PI, Funed, $16,811.
- Korean National Research Foundation. "Latent Space Generalized Linear Model and Its Applications." 2020-2024. Role: PI, Funded, $336,225.

Teaching

1. Texas A&M University, College Station, Texas USA
    - Lecturer
        1. STAT 303: Statistical methods Summer 2009

2. STAT 201: Elementary statistical inference Fall 2009
3. STAT 201: Elementary statistical inference Spring 2010

- Teaching Assistant

1. STAT 211: Principal of Statistics (Fall 2006 - Spring 2009)
2. STAT 630: Overview of Mathematical Statistics (Fall 2010, Spring 2011)
3. STAT 611: Theory of Inference (Spring 2011)
4. STAT 303: Statistical Methods (Summer 2011)

2. University of Notre Dame, Notre Dame, Indiana USA

- Instructor
  1. ACMS 40950: Topics in Statistics Fall 2015, 2016
  2. ACMS 60886: Applied Bayesian Statistics II Spring 2016, 2018
  3. ACMS 30540: Mathematical Statistics Fall 2016
  4. ACMS 60888: Statistical Computing and Monte Carlo Spring 2017, Fall 2018
  5. ACMS 30530: Introduction to Probability Fall 2017
  6. ACMS 40878: Statistical Computing with R Fall 2017, 2018, Spring 2019

3. Yonsei University, Seoul, Republic of Korea

- Instructor
  1. STA 4118: Causal Inference Fall 2019
  2. STA 6172: Statistical Computing for Data Science II Fall 2019, Spring 2021
  3. STA 4117: Data Science 2 - Network Data Analysis Spring 2020, Spring 2021
  4. STA 6800: Statistical Analysis of Network Spring 2020
  5. STA 6160: Bayesian Analysis Fall 2020
  6. STA 6171: Statistical Computing for Data Science I Fall 2020

Award

- Korean International Statistical Society Career Development Award, 2017.
- Tanaka Award: Most Outstanding Article in Multivariate Behavioral Research Volume 53.

Invited Presentations

- MD Anderson Cancer Center, February, 2011.
- Complex Network Transition Workshop, SAMSI, June, 2011.
- Interface 2012: Future of Statistical Computing, May, 2012.
- Yonsei University, September, 2012.
- Konkuk University, September, 2012.
- University of California, Santa Cruz, February, 2013.

- Louisiana State University, April, 2013.
- Case Western Reserve University, May, 2013.
- American Institute of Mathematics Workshop, June, 2013.
- Joint Meeting of the IASC Satellite Conference for the 59th ISI WSC and the 8th Conference of the Asian Regional Section of the IASC, August, 2013.
- The University of Texas Health Science Center at Houston, November, 2013.
- Ohio State University Comprehensive Cancer Center, January, 2014.
- University of Waterloo, January, 2014.
- Washington University in St. Louis, February, 2014.
- University of Notre Dame, January, 2015.
- Symposium on Early Phase Dose Finding Methodology, April, 2015.
- KISS Invited Session, Korean Statistical Society Meeting 2016, May, 2016.
- 12th International Conference on MCQMC Method, August, 2016
- Western Michigan University, October, 2016
- University of Notre Dame (Department of Psychology), February, 2017
- University of California, Los Angeles (Graduate School of Education and Information Studies), March, 2017
- Statistical Inference for Biomedical Big Data Workshop, University of Florida, April, 2017
- Clinical Trial Design in the Era of Precision Medicine-Progress and Challenge, Indiana University, April, 2017.
- Purdue University, August, 2017.
- Indiana University-Purdue University Indianapolis, December, 2017.
- CMStatistics 2018, December, 2018.
- Yale University, January, 2019.
- University of California, San Francisco, March, 2019.
- Inha University, September, 2019.
- Annual Meeting of the International Society for Data Science and Analytics (Participated as Committee Member), May, 2020.
- Joint Statistical Meeting (JSM) 2020, August, 2020.
- Jeonnam National University, August, 2020.
- Seoul National University, September, 2020.
- Sungkyunkwan University, November, 2020.
- Samsung Medical Research Center, December, 2020.
- Korea University, April, 2021.

Journal Referee

- Journal of the American Statistical Association
- Journal of Computational and Graphical Statistics (3)
- Bayesian Analysis (2)
- Biometrics (2)
- Bioinformatics
- Computational Statistics and Data Analysis (8)

- Psychometrika.
- Structural Equation Modeling.
- Multivariate Behavioral Research.
- Spatial Statistics.
- Journal of the Korean Statistical Society (2).
- British Journal of Mathematical and Statistical Psychology
- Statistics and Probability Letters
- IEEE Transactions on Knowledge and Data Engineering
- BMC Medical Research Methodology.
- Plos One.
- Neurocomputing (2).
- Multivariate Behavioral Researches (2).
- Structureal Equation Modeling

Academic Committee

1. Chair of Master's Committee

- Justin Luningham (2016; University of Notre Dame)
- Alex Brodersen (2018; University of Notre Dame)
- Chang Che (2019; University of Notre Dame)
- Sunhee Park, Junyong Park, Suyoung Choi (2021. 02; Yonsei University)
- Doyoung Song (Current; Yonsei University)
- Hyunjoo Kim, Junghwan Lee (Current; Yonsei University)
- Sangjun Eom, Eunyoung Ryu, Hyunyeong Kim (Current; Yonsei University)

2. Chair of Ph.D. Committee

- Haiyan Liu (2018; University of Notre Dame)
  - Co-advised with Zhiyong Johnny Zhang.
  - Current Position: Assistant Professor at University of California, Merced.
  - Topic: Structural Equation Modeling for Social Network.
- Kisung You (Current; University of Notre Dame)
- Jina Park (Current; Yonsei University)
- Dongyoung Ko (Current; Yonsei University)
- Yeseul Jeon (Current; Yonsei University)

Professional Memberships

- American Statistical Association
- Institute of Mathematical Statistics
- International Society of Bayesian Analysis
- International Network of Social Network Analysis
- Korean International Statistical Society
- Korean Statistical Society

Programming Languages

C, R, Matlab, Julia, LaTeX.

Lab Members

/

b

jh.song@yonsei.ac.kr

b

Publications

Working Papers

- “a”, b

Publications in SSCI-indexed journals

- “c”, d