

SE YOON LEE

1800 W Hillcrest Dr 276 Newbury Park, CA, 91320 ◊ 979 888 4107
seyoonlee.stat.math@gmail.com ◊ <https://sites.google.com/view/seyoonlee>

EDUCATION

Ph.D. Statistics, Texas A&M University, College Station, U.S.A.	<i>May 2021</i>
Advisor: Prof. Bani K. Mallick	Overall GPA: 3.78/4
M.A. Applied Statistics, Yonsei University, Seoul, South Korea	<i>Feb 2016</i>
Advisor: Prof. Joseph H.T. Kim	Overall GPA: 3.86/4
B.S. Mathematics, Yonsei University, Seoul, South Korea	<i>Feb 2013</i>
Graduated with the 2nd highest class rank out of 43 students	Overall GPA: 3.84/4
Grades for core mathematics courses: [Click]	

RESEARCH INTEREST

Bayesian Analysis, Survival Analysis, Deep Learning, Machine Learning

WORK EXPERIENCE

Amgen Inc.	<i>May 2021 – present</i>
Scientist - Modeling & Simulations	Thousand Oaks, CA

- Researched on machine/deep learning models to analyze clinical pharmacology and exposure-biomarker-efficacy/safety relationship to guide the development and effective use of medicine.

Novartis International AG.	<i>May 2020 – Aug 2020</i>
Biostatistics Summer Intern	East Hanover, NJ

- Developed a Bayesian linear mixed effect model for patients who have wet age-related macular degeneration to predict best-corrected visual acuity over the maintenance phase and suggest a personalized dose regimen.
- The proposed model has been trained by actual patients' data from HAWK and HARRIER studies (Number of patients is around 1,800 patients). ; [\[Abstract\]](#) ; [\[Slides\]](#)

EMD Serono Inc. Merck KGaA.	<i>May 2019 – Aug 2019</i>
Pharmacometrics Summer Intern	Billerica, MA

- Developed a Bayesian adaptive clinical trial design in Phase I cancer clinical trials, which aimed at utilizing grade information from the Common Toxicity Criteria for Adverse Events provided by the National Cancer Institute. ; [\[Abstract\]](#) ; [\[Poster\]](#)

Texas A&M University.	<i>Aug 2016 – May 2021</i>
Graduate Research/Teaching Assistant	College Station, TX

- Researched on applications and developments of various statistical models (e.g. non-linear mixed effect model, nonparametric/semiparametric longitudinal model, clustering analysis, classification, hierarchical Poisson model, etc) to various industrial problems arising from biomedical, petroleum, wind energy industries, and COVID-19 outbreak.

PUBLICATIONS

Journal Article

- [1] **Seyoon Lee**, Joseph H.T. Kim. (2018) “Exponentiated generalized Pareto distribution: Properties and applications towards extreme value theory,” *Communications in Statistics - Theory and Methods*, 48:8, 2014-2038
- [2] **Se Yoon Lee**, Bowen Lei, and Bani K. Mallick. (2020) “Estimation of COVID-19 spread curves integrating global data and borrowing information,” *PLOS ONE* ; [[Github](#)]
- [3] **Se Yoon Lee**^{*}, Kahkashan Afrin^{*}, Ashif Iquebal^{*}, Mostafa Karimi^{*}, Allyson Larsen^{*}, and Bani K Mallick^{*}. (2020) “Directionally Dependent Multi-View Clustering Using Copula Model,” *PLOS ONE* (^{*} : equal contribution, authors are alphabetically ordered in the last name.)
- [4] **Se Yoon Lee** and Bani K. Mallick. (2021) “Bayesian Hierarchical modeling: application towards production results in the Eagle Ford Shale of South Texas,” *Sankhyā: The Indian Journal of Statistics, Series B* ; [[Github](#)]
- [5] **Se Yoon Lee**. (2021) “Gibbs sampler and coordinate ascent variational inference: a set-theoretical review,” *Communications in Statistics - Theory and Methods*

Conference Paper/Poster

- [1] **Se Yoon Lee**, Shankar Lanke, Alain Munafo, Pascal Girard, and Kosalaram Goteti. (2020) “Optimization of dose selection using multiple surrogates of toxicity as continuous variable in Phase I cancer trial,” *ACoP11, ISSN:2688-3953, Vol 2*

Under review

- [1] **Se Yoon Lee**, Peng Zhao, Debdeep Pati, Bani K. Mallick. (2021+) “Tail-adaptive Bayesian Shrinkage,” *Journal of the Royal Statistical Society: Series B* ; [[Slides](#)]
- [2] **Se Yoon Lee**, Alain Munafo, Pascal Girard, and Kosalaram Goteti. (2021+) “Optimization of dose selection using multiple surrogates of toxicity as continuous variable in Phase I cancer trial, ” *Contemporary Clinical Trials* [[Minor Revision](#)]

PROFESSIONAL ACTIVITIES

Invited Peer Reviewers

- European Journal of Clinical Investigation (Impact Factor: 3.481)
- Artificial Intelligence Review (Impact Factor: 8.139)
- The Journal of Clinical Pharmacology (Impact Factor: 3.126)
- Statistics in Medicine (Impact Factor: 2.373)

HONORS AND AWARDS

Travel fund for an invited talk at Yonsei University	<i>Dec 2019</i>
Given to an invited speaker for the presentation	
Travel fund for an invited talk at University of Michigan	<i>Jun 2019</i>
Given to an invited speaker for an annual meeting about wind energy	
Travel fund for poster presenter for the Houston Geological Society	<i>Mar 2018</i>
Given to a poster presenter	
Anant Kshirsagar fellowship	<i>Jul 2018</i>
Given to graduate students who demonstrate excellence in making progress in research	

The 1st place prize in SETCASA poster session in 2018

Apr 2018

Given to only one winner for the poster session

Graduate student travel award for JSM

Jul 2017, 2018

Given to graduate students who make a presentation at the conference

PRESENTATIONS AND TALKS

Invited speakers

- “Prediction of best-corrected visual acuity for wet age-related macular degeneration patients in HAWK and HARRIER studies via a Bayesian hierarchical linear model” *Aug 2020*
Organization: Novartis International AG, Internship Project Presentation
- “Estimation of COVID-19 spread curves integrating global data and borrowing information” *Jul 2020*
Organization: Mathophilia 2020, IQAC, Banwarilal Bhalotia College, Asansol, India
- “Bayesian Hierarchical Model: Application towards Wind Farm Data” *Jun 2020*
Organization: National Science Foundation, University of Connecticut, Mansfield, CT, U.S.A.
- “Continuous shrinkage prior revisited: a collapsing behavior and remedy” ; **[Abstract]** *Dec 2019*
Organization: Yonsei University, Department of Applied Statistics, Seoul, South Korea
- “Tutorial: understanding offshore wind energy data and spatial modeling” *Jun 2019*
Organization: National Science Foundation, University of Michigan, Ann Arbor, MI, U.S.A.

Poster presentations

- “Hierarchical Bayesian modeling: application towards production results in the Eagle Ford shale of South Texas” *Mar 2019*
Organization: Houston Geological Society Applied Geoscience Conference, Houston, TX, U.S.A.
- “Hierarchical Bayesian modeling: application towards production results in the Eagle Ford shale of South Texas” *Sep 2018*
Organization: Texas A & M Conference on Energy, College Station, TX, U.S.A.
- “Hierarchical Bayesian modeling: application towards petroleum data” *Apr 2018*
Organization: Southern Texas Chapter American Statistical Association, College Station, TX, U.S.A.
- “Exponentiated Generalized Pareto Distribution: Properties and Applications Towards Extreme Value Theory” *Aug 2017*
Organization: Joint Statistical Meeting 2017, Baltimore, MD, U.S.A.

SOFTWARE

Software used in papers

- Bayesian Hierarchical Richards Model ; Written in R ; **[Download]** ; **[Github]**
- Spatial Weibull Model ; Written in R ; **[Github]**

SKILLS

Language	Fluent in English and Korean; Elementary in Chinese and Japanese
Computer Language	Proficient in R, Python, SQL, Microsoft Access, SAS, and NONMEM
Certificate	Cognigen NONMEM Workshop