SE YOON LEE

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EDUCATION

Ph.D. Statistics, Texas A&M University, College Station, U.S.A.	*May 2021*
Advisor: Prof. Bani K. Mallick	Overall GPA: 3.78/4
M.A. Applied Statistics, Yonsei University, Seoul, South Korea	*Feb 2016*
Advisor: Prof. Joseph H.T. Kim	Overall GPA: 3.86/4
B.S. Mathematics, Yonsei University, Seoul, South Korea	*Feb 2013*
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, Pharmacometrics, Clinical Pharmacokinetics, Cancer Genomics

WORK EXPERIENCE

Translational Medicine, Amgen Inc.	*May 2021 – present*
Scientist - Clinical Pharmacology, Modeling & Simulations	Thousand Oaks, CA

· Utilized clinical pharmacology and exposure-biomarker-efficacy/safety relationship to guide the development and effective use of medicine.
Supervisor: Malidi Ahamadi

Ophthalmology Department, Novartis International AG.	*May 2020 – Aug 2020*
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).
Supervisor: Liansheng Zhu ; [**Abstract**] ; [**Slides**]

Pharmacometric Department, EMD Serono Inc. Merck KGaA.	*May 2019 – Aug 2019*
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.
· *The internship work has been accepted to the American Conference on Pharmacometrics 2020.*
Supervisor: Kosalaram Goteti ; [**Abstract**] ; [**Poster**]

Department of Statistics, Texas A&M University.	*Aug 2016 – May 2021*
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.

- Researched on gene expression analysis for biomarker discovery in cancer studies, and development of relevant statistical models (e.g. high-dimensional statistical model, multi-view clustering analysis, etc).
- Constructed a Database Platform for graduate programs of the College of Science supervised by Dean (Valen Johnson) and Associate Dean (Suojin Wang) (Software: MS Access/SQL).
- Helped instructors for graduate/undergrad courses.

PUBLICATIONS

Published

[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**, 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*

[5] **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**]

[6] **Se Yoon Lee**. (2021) "Gibbs sampler and coordinate ascent variational inference: a set-theoretical review," *Communications in Statistics - Theory and Methods*

Submitted

[1] **Se Yoon Lee**, Peng Zhao, Debdeep Pati, Bani K. Mallick. (2021+) "Tail-adaptive Bayesian Shrinkage" ; [**Slides**]

PROFESSIONAL ACTIVITIES

Invited Peer Reviewers (Topic of assigned paper: COVID-19 epidemiological modeling)

- European Journal of Clinical Investigation (Impact Factor: 3.481)

HONORS AND AWARDS

Travel fund for an invited talk at Yonsei University	*Dec 2019*
Given to an invited speaker for the presentation	
Travel fund for an invited talk at University of Michigan	*Jun 2019*
Given to an invited speaker for an annual meeting about wind energy	
Travel fund for poster presenter for the Houston Geological Society	*Mar 2018*
Given to a poster presenter	
Anant Kshirsagar fellowship	*Jul 2018*
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 *Aug 2020*
patients in HAWK and HARRIER studies via a Bayesian hierarchical linear model"
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 *Mar 2019*
Ford shale of South Texas"
Organization: Houston Geological Society Applied Geoscience Conference, Houston, TX, U.S.A.

· "Hierarchical Bayesian modeling: application towards production results in the Eagle *Sep 2018*
Ford shale of South Texas"
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 *Aug 2017*
Towards Extreme Value Theory"
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