

Issac (Sak) Lee

807 Oakcrest St. APT 19, Iowa City, IA, 52246
(319) 800-5484 • sak-lee@uiowa.edu • theissaclee.com

EDUCATION

The University of Iowa

PhD in Statistics and Actuarial Science
2020

Iowa City, IA
December

- GPA: 3.62/ 4.33
- Statistics: Advanced Inference I, II, High-Dimensional Statistical Inference, Convex Optimization for Statistical Learning, Foundations of Probability I, Bayesian Analysis.
- Actuarial Science: Advanced Topics in Actuarial Science (Stochastic Analysis for Insurance, Finance, and Risk Management)
- Computing: Machine Learning, Algorithms, Computer Intensive Statistics

The Sung Kyun Kwan University

M.S. in Actuarial Science

Seoul, South Korea
February 2014

- GPA: 4.42/ 4.50

B.S. in Statistics and Industrial Engineering

February 2012

- GPA: 3.79/ 4.50

RESEARCH EXPERIENCE

Actuarial Science Conference 2019

USA

Indianapolis, Indiana,

Presentation – [I Know How You Drive, driving profiling via smartphone](#)

August 2019

- Applying the Kalman filter to calibrate the data from sensors in smartphone for obtaining more accurate drivers' driving profile. The calibrated driving profiles can be used for evaluating the riskiness of driver's driving style.

Actuarial Science Conference 2018

Canada

London, Ontario,

Poster - [Asymptotic Normality for the Sample CTE Revisited](#)

August 2018

- Providing an intuitive proof of asymptotic normality of CTE(Conditional Tail Expectation) measure using Berry-Esseen theorem and the ordinary delta method.

Research Assistant under Professor Shyamal Kumar, N. D.

2018

August 2017 to May

Constructing a replicating portfolio of life insurance policies

- Insurance company suffers from a tremendous computation time (3 to 5 days) to simulate the future cash flows of their huge collection of insurance policies. The task of the research was to find the collection of the representative policies which gives us the approximately same simulation value within a reasonable time.
- Try to find a replicating portfolio of a Life Insurance company data. Using network theory to cluster the universal life policies.

WORKING EXPERIENCE

The University of Iowa

Guest Lecturer

Iowa City, IA
October 2019

- Teaching a regular 50 min. lecture for a class which consists of 100 students. Explain the statistical methods by solving examples using statistical software.

Teaching Assistant

August 2018 to Present

- Teaching four discussion sections (50 min. each) per week. Answer questions and reinforce materials used in the lecture. Explain the statistical methods by solving examples in the text book. Each class consists of 25 students.
- Teaching and supervising to make students understand statistical concepts using programming languages (R, SAS).
- Providing course website for supporting materials such as practice problems and R code.
 - o [Statistical Methods and Computing \(STAT:4200/2010\)](#)
 - o [Elementary Statistical Inference \(STAT:1020\)](#)
 - o [Statistics and Society \(STAT:1010\)](#)

The Sung Kyun Kwan University

Teaching Assistant

Seoul, South Korea

January 2012 to January

2014

- Teaching Financial Mathematics exam preparation course with VBA to the first year of graduate students.
- Writing and proof reading of the certified Korean actuarial exam book, Actuarial mathematics, The Institute of Actuaries of Korea, 2014. Author – Hangsuck Lee (Academic advisor), Hyuk-Sung Kwon.

Republic of Korea Army

Sergeant

Incheon, South Korea

November 2006 to November

2008

- A squad leader.
- Working at the human resource department, headquarters of 17th infantry division. Manage and schedule the promotion and vacation of soldiers and officers.

PUBLICATIONS

- Kim, D., **Lee, I.**, & Lee, H. (2014). Analysis of Multiple Life Insurance using Copula and Common Shock. *Korean Journal of Applied Statistics*, 27(7), 1097-1114.
- **Lee, I.**, Lee, H., & Kim, H. T. (2014). Analysis of reserves in multiple life insurance using copula. *Communications for Statistical Applications and Methods*, 21(1), 23-43.
- **Lee, I.**, Baek, H., & Lee, H. (2013). Analysis of Multiple Life Insurance using Copula. *Journal of the Korean Data Analysis Society*, 15(4), 1933-1954.

PROFESSIONAL EXAMS AND CREDITS

- Society of Actuaries Exams
EXAM P (7/27/2010), FM (2/10/2011), MFE (4/19/2012), EXAM C (2/1/2013), VEE (11/18/2016)

SKILLS

- Programming skill: R, R Shiny, VBA, Java, Python, MS office
- Explaining Statistics and R Programming via website: theissaclee.com
- R packages:
[ikhdy](#) (IMU sensor data calibration with Kalman filter)
[R4Tistory](#) (Automatic posting with Rmd documents using API provided from Tistory webserver)
[r4issactost](#) (Personal R package for teaching statistics)

SCHOLARSHIP AND AWARDS

- CKER Travel Grant to ARC 2019 - \$500, August 2019
- University of Iowa, Graduate Research Summer Fellowship - \$4,000, July 2019
- Korean Life Insurance Association International PhD scholarship - \$70,000 per year, August 2014 to August 2018
- SOA Research Scholarship – \$2,000, August 2015