HIMCHAN JEONG

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Education

2016/8 - 2020/8 Ph.D. in Mathematics with Thesis in Actuarial Science, **University of Connecticut, United States**
2014/9 - 2016/8 M.Sc. in Statistics, **Seoul National University, South Korea**
2006/3 - 2012/8 B.A. in Business Administration and B.Sc. in Mathematical Science, **Seoul National University, South Korea**

Work Experience

2020/8 - Present Assistant Professor, **Simon Fraser University, Department of Statistics & Actuarial science, Canada**
2016/8 - 2020/8 Graduate Assistant, **University of Connecticut, Department of Mathematics, United States**
2012/7 - 2015/1 Assistant Manager, **DB Insurance, Long-term Maintenance Part, Korea**

Actuarial Certification

2019/3 - Present Fellow of the Society of Actuaries
2014/6 - 2019/3 Associate of the Society of Actuaries

Service to SFU (Department of Statistics and Actuarial Science)

2023/9 - Present Supervisor, Actuarial Science Undergraduate Studies
2022/6 - 2022/9 Member, Teaching Evaluation Policy Development Group
2021/4 - 2022/3 Member, Tenure and Promotions Committee

Service to the Actuarial Profession

2022/11 - 2023/1 Judge, 2023 Catastrophic Case Competition, Actuarial Students' National Association
2022/3 - Present Member, GI Research Committee, Society of Actuaries
2021/7 - 2022/9 Member, Exam QFI Quantitative Finance Committee, Society of Actuaries
2019/9 - Present Member, Exam GI Ratemaking and Reserving Committee, Society of Actuaries

Students Supervision

2021/9 - Present Hashan Peiris, Statistics PhD at SFU
2022/9 - Present Tianxing Yan, Actuarial MSc at SFU
2023/9 - Present Dongha Lee, Statistics PhD at SFU

Organizing Activities

2020/10 - 2021/12 Co-organizer, Workshop on "Emerging Insights in Insurance Statistics", Banff International Research Station (Cancelled due to COVID-19)

Research Grants

2022/8 - 2023/7 CANSSI Graduate Student Exchange Scholarships: CAD 8,000 (fully used to support Tianxing Yan, Co-applicant: Dr. Yi Lu)

2022/8 - 2023/7 Canadian Institute of Actuaries (CIA)'s Academic Research Program, *Integration of Traditional and Telematics data for Efficient Insurance Claims Prediction*: CAD 13,500 (fully used to support Hashan Peiris)

2022/5 - 2023/7	Casualty Actuarial Society (CAS) Individual Research Grant, *Linear Classification Models for Risk Scoring*: USD 16,000 (PI: Dr. Bin Zou, Individual grant portion: USD 8,000)
2022/5 - 2023/7	Korea Risk Management Society (KRMS) Fellowship for Globalized Research: KRW 4,000,000
2021/7 - 2022/6	Daesan Shin Yong Ho Memorial Society Research Fellowship: KRW 10,000,000 (Co-PI: Dr. Banghee So, Individual grant portion: KRW 5,000,000)
2021/7 - 2022/3	Korean Insurance Academic Society (KIAS) Early Career Researcher Fellowship: KRW 3,000,000
2021/4 - 2026/3	NSERC Discovery Grant, *Insurance ratemaking with consideration of dynamic credibility*: CAD 102,500.
2020/9 – 2025/8	SFU New Faculty Start-Up Grant: CAD 35,000.

Teaching Experience

At Simon Fraser University

Fall 2023	Stochastic Processes for Insurance and Finance (Lecturer)
Spring 2023	Interest Theory and Applications, Loss Models II (Lecturer)
Spring 2022	Loss Models II (Lecturer)
Fall 2021	Loss Models I (Lecturer)
Fall 2020	Loss Models I (Lecturer)

At the University of Connecticut

Spring 2020	Actuarial Loss Model (Lecturer)
Fall 2019	Actuarial Loss Model (Lecturer)
Spring 2019	Actuarial Loss Model (Lecturer)
Fall 2018	Problem Solving (Lecturer)
Spring 2018	Calculus II (Held weekly discussion sessions)
Fall 2017	Math for Business and Economics (Held weekly discussion sessions)
Spring 2017	Calculus II (Held weekly discussion sessions)
Fall 2016	Actuarial Statistics and Actuarial Mathematics (Graded exams and assignments)

At Seoul National University

Fall 2015	Statistics Laboratory Class (Held recitation sessions on data analysis using R)
Fall 2014	Elementary Statistics (Graded assignments and test papers)

Research Publication and Working Papers

2023 "Multivariate claim count regression model with varying dispersion and dependence parameters" by **H. Jeong**, G. Tzougas, and T.C. Fung, *The Journal of the Royal Statistical Society: Series A*, 186(1), 61-83.

"A simple Bayesian state-space model for the collective risk model" by J. Ahn, *H. Jeong*, and Y. Lu, *Scandinavian Actuarial Journal*, 2023, 1-21.

"Valuing rebate options and equity-linked products" by H. Lee, G. Lee, and H. Jeong, *North American Journal of Economics and Finance,* 68, 101968.

"Soft splicing model: Bridging the gap between composite model and finite mixture model" by T. C. Fung, H. Jeong, and G. Tzougas, *Scandinavian Actuarial Journal,* Article in Press.

"Nonparametric intercept regularization for insurance claim frequency regression models" by G. Y. Lee and *H. Jeong*, *Annals of Actuarial Science*, Accepted.

"Integration of Traditional and Telematics Data for Efficient Insurance Claims Prediction" by H. Peiris, H. Jeong, J-K. Kim, and H. Lee, in revision with *ASTIN Bulletin: The Journal of the IAA.*

"Tweedie Multivariate Semi-Parametric Credibility" by **H. Jeong**, in revision with *Insurance: Mathematics and Economics.*

"Linear Classifier Models for Binary Classification" by **H. Jeong** and B. Zou, in revision with *Variance*.

"A Classification of Observation-Driven State-Space Count Models for Panel Data" by J. Ahn, H. Jeong, Y. Lu, and M.V. Wüthrich, under review

"Predictive joint modelling of climate events and claim frequencies: The case of Greek automobile insurance with natural phenomena coverage" by T. C. Fung, *H. Jeong*, and G. Tzougas, manuscript in preparation.

2022 "Dimension reduction techniques for summarized telematics data" by **H. Jeong**, *Journal of Risk Management.*, 33(4), 1-25.

"Simulation Engine for Adaptive Telematics data" by B. So and H. Jeong, *Variance*., Accepted.

"A Dynamic Credibility Model Using Hawkes Processes" by **H. Jeong** and B. Zou, *Proceedings of Winter Simulation Conference 2022*.

"Multi-peril frequency credibility premium via shared random effects" by **H. Jeong** and D. Dey, *Variance*, Accepted.

"Risk Aggregation for Measuring Required Capital via Copula-based Internal Models under K-ICS" by **H. Jeong**, *Korean Journal of Insurance*. 129: 51-77.

"Multi-step Double Barrier Options" by H. Lee, H. Jeong, and M. Lee, *Finance Research Letters*, 47(A).

"Approximation of Zero-Inflated Poisson Credibility Premium via Variational Bayes Approach" by M. Kim, H. Jeong and D. Dey. *Risks*. 10(3): 54.

"Posterior ratemaking of compound loss using longitudinal data with EM algorithm" by T. Yan and H. Jeong, *Journal of Risk Management*, 33(1), 1-34.

2021 "On the ordering of credibility factors" by J. Ahn, *H. Jeong*, and Y. Lu, *Insurance: Mathematics and Economics*, 101, 626-638

"Generalized linear mixed models (GLMMs) for dependent compound risk models" by **H. Jeong**, E.A. Valdez, J. Ahn, and S. Park, *Variance,* 14(1).

"A non-convex regularization approach for stable estimation of loss development factors" by <u>**H. Jeong**</u>, H. Chang, and E.A. Valdez, *Scandinavian Actuarial Journal,* 9, 779-803.

"EM estimation for the exponential generalized inverse Gaussian regression model with varying dispersion and shape for modelling the aggregate claim amount" by G. Tzougas and H. Jeong, *Risks,* 9(1), 19.

"A multi-year microlevel collective risk model" by R. Oh, H. Jeong, E.A. Valdez, and J. Ahn, *Insurance: Mathematics and Economics,* 100, 309-328.

2020 "Fully and empirical Bayes approaches to estimating copula-based models for bivariate mixed outcomes using Hamiltonian Monte Carlo" by V. Deshpande, H. Jeong, D.K. Dey, and E.D. Schifano, *TEST, 1-20.*

"Testing for random effects in compound risk models via Bregman divergence" by <u>**H. Jeong**</u>, *ASTIN Bulletin: The Journal of the IAA,* 50*(3), 777-798.*

"Bayesian credibility premium with GB2 copulas" by **H. Jeong** and E.A. Valdez, *Dependence Modeling,* 8*(1), 157-171.*

"Predictive compound risk models with dependence" by <u>**H. Jeong**</u> and E.A. Valdez, *Insurance: Mathematics and Economics,* 94*, 182-195.*

"Application of vine copula for multi-line insurance reserving" by <u>**H. Jeong**</u> and D.K. Dey, *Risks,* 8*(4), 111.*

2018 "Association rules for understanding policyholder lapse" by **H. Jeong**, G. Gan, and E.A. Valdez, *Risks,* 6*(3), 69.*

*** First author** / <u>Corresponding author</u> / <u>**First and Corresponding author**</u> / *equal contributions*

Conferences and Seminar Talks

2023 Presented the work on "Integration of Traditional and Telematics Data for Efficient Insurance Claims Prediction", CANW Winter meeting, Vancouver, BC, Canada, 2 December 2023.

Presented the work on "Integration of Traditional and Telematics Data for Efficient Insurance Claims Prediction", ICML 2023 DLMR Workshop, Honolulu, Hawaii, United States, 28 July 2023.

Presented the work on "Integration of Traditional and Telematics Data for Efficient Insurance Claims Prediction", JSM 2023, Toronto, Ontario, Canada, 9 August 2023.

2022 Presented the work on "Multivariate claim count regression model with varying dispersion and dependence parameters", NESS 2022, University of Connecticut, Storrs, Connecticut, United States, 24 May 2022.

Presented the work on "Multivariate claim count regression model with varying dispersion and dependence parameters", Research Seminar, UNSW Business School, Sydney, Australia, 1 March 2022.

Presented the work on “Multivariate claim count regression model with varying dispersion and dependence parameters”, Research Section, Knowledge Sharing Session of IFoA, London, United Kingdom, 22 February 2022.

2021 Presented the work on “Approximation of zero-inflated Poisson credibility premium via variational Bayes”, The 56th Actuarial Research Conference, DePaul University, Chicago, Illinois, United States, 20 August 2021.

Presented the work on “Equity Indexed Annuities with rebates”, The 24th International Congress on Insurance: Mathematics and Economics, Urbana, Illinois, United States, 9 July 2021.

Presented the work on “Predictive compound risk models with dependence”, SIAM FM21 Conference, Soongsil University, Seoul, South Korea, 7 June 2021.

Presented the work on “A Non-convex Regularization Approach for Stable Estimation of Loss Development Factors”, SIAM FM21 Conference, Online, 4 June 2021.

Presented the work on “Approximation of zero-inflated Poisson credibility premium via variational Bayes”, 2021 Annual Conference, Korean Academy of Actuarial Science, Seoul, South Korea, 21 May 2021.

Presented the work on “A non-convex regularization approach for stable estimation of loss development factors”, Seoul National University Department of Statistics Seminar, Seoul, South Korea, 14 May 2021.

Presented the work on “A non-convex regularization approach for stable estimation of loss development factors”, Ewha Womans University Department of Statistics Seminar, Seoul, South Korea, 29 January 2021.

2020 Presented the work on “Applications of random effects in dependent compound risk models”, London School of Economics (LSE) Actuarial Science Seminar Series, London, United Kingdom, 7 October 2020.

Presented the work on “Applications of random effects in dependent compound risk models”, The 55th Actuarial Research Conference, The University of Nebraska-Lincoln, Lincoln, Nebraska, United States, 12 August 2020.

Presented the work on “A regularization approach for stable estimation of loss development factors”, Online International Conference in Actuarial science, data science and finance, 28 April 2020.

Presented the work on “Application of Random Effects in Dependent Compound Risk Model”, SIGMA Seminar, University of Connecticut, Storrs, United States, 14 February 2020.

2019 Presented the work on “Testing for random effects in compound risk models via Bregman divergence”, Simon Conference for Young Researcher in Risk Management and Insurance, Michigan State University, East Lansing, United States, 23 November 2019. (Awarded a runner-up prize)

Presented the work on “Premium optimization with policyholder loyalty”, The 54rd Actuarial Research Conference, IUPUI, Indianapolis, United States, 16 August 2019.

Presented the work on “Predictive compound random effects models for dependent frequency and severity”, The 23rd International Congress on Insurance: Mathematics and Economics, Technical University of Munich, Munich, Germany, 10 July 2019.

Presented the work on “Premium optimization with policyholder loyalty”, The 3rd International Congress on Actuarial Science and Quantitative Finance, Universidad National Campus La Nubia, Manizales, Columbia, 20 June 2019.

Presented the work on “Predictive compound random effects models for dependent frequency and severity”, Conference of Korean Statistical Society, Gangwon National University, Chuncheon, Korea, 25 May 2019. (Awarded a bronze medal, the 3rd prize)

Presented the work on “Application of Bayesian sensitivity analysis in compound risk model with random effects”, Actuarial Science Seminar, University of Connecticut, Storrs, United States, 28 January 2019.

2018 Presented the work on “Ratemaking application of Bayesian LASSO with conjugate hyperprior”, The 53rd Actuarial Research Conference, Western University, London, Canada, 9 August 2018.

Presented the work on “Ratemaking application of Bayesian LASSO with conjugate hyperprior”, Conference of Korean Statistical Society, Busan National University, Busan, Korea, 26 May 2018. (Awarded an honorable mention)

Presented the work on “A predictive random effects model of dependent claims frequency and severity”, SIGMA Seminar, University of Connecticut, Storrs, United States, 9 February 2018.

2017 Presented the work on “A predictive random effects model of dependent claims frequency and severity”, Advances in Predictive Analytics (APA) Conference, University of Waterloo, Waterloo, Canada, 2 December 2017.

Presented the work on “A predictive random effects model of dependent claims frequency and severity”, Actuarial Science Seminar, University of Connecticut, Storrs, United States, 18 September 2017.

2015 Presented the work on “Simple Compound Risk Model with Dependent Structure and its application to Bonus-Malus System”, Conference of Korean Statistical Society, Hankuk University of Foreign Studies, Gyeonggi-do, Korea, 7 November 2015.

Honors and Awards

April 2020	UConn MATH DeLuca Graduate Teaching Award
2019 - 2020	UConn Provost recognition for excellence in teaching
March 2019	Risks Travel Award
2018 - 2020	SOA Hickman Scholarship
July 2017	UConn Actuarial Scholarship
2015	Korean Life Insurance Social Contribution Committee Scholarship
2011	Korean Red Cross, Gold Medal of Honor (for frequent blood donations)
2007-2011	Sharing Activity Foundation Scholarships

Volunteer Experiences

Fall 2012	Hematopoietic stem cell donation for a leukemia patient
2004/8 - Present	84 times of blood donation at Korean Red Cross

Other Experiences

2008/1 - 2010/3	Senior Airman, Deputy of Human Resources in Headquarter of Republic of Korea Air Force
2006/9 - Present	12 classical guitar concert performance at university club

Languages and Computer Skills

- Languages: Korean (native), English (competent), Chinese (beginner)
- Computer skills: R (advanced)