Archive of Actuarial Science Seminars – Michaelmas Term 2020

Wednesday 7 October 2020, 6-7pm - Himchan Jeong

Himchan Jeong is an Assistant Professor in the Department of Statistics and Actuarial Science at Simon Fraser University, Canada. He is a Fellow of the Society of Actuaries (SOA) and holds a Ph.D. from the University of Connecticut.

He has been actively involved in teaching and conducting research in actuarial science for several years. In recognition for his academic achievements and excellence, he has been awarded the James C. Hickman Scholarship from SOA recently in 2018-2020. His current research interest is predictive modeling for ratemaking and reserving of property and casualty insurance.

Applications of random effects in dependent compound risk models

It has been a standard practice to assume, for simplicity, the independence of loss frequency and loss severity in the ratemaking for general insurance. However, in recent years, there is a sporadic interest in the actuarial literature and practice to explore models that depart from this independence assumption. Besides, the availability of data enables us to explore the benefits of using random effects for predicting insurance claims observed over a period of time. In this regard, the following research works are introduced which are related to the modeling of compound risks via random effects.

First, we examine procedures for testing random effects using Bayesian sensitivity analysis via Bregman divergence. It enables insurance companies to judge whether to use random effects for their ratemaking model or not based on observed data. Second, we extend previous work on the credibility premium of compound sum by incorporating possible dependence as a unified formula. In this work, an informative dependence measure between the frequency and severity components is introduced which can capture both the direction and strength of possible dependence.

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Monday 19 October 2020, 6-7pm - Montse

Tan Suee Chieh is the President of the Institute and Faculty of Actuaries and member council of IFoA. He sits on the boards of Singapore University of Social Sciences, Sim Kee Boon Institute of Financial Economics (SMU), LSE Trust (Singapore), Singapore School of the Arts and various boards of the Institute and Faculty of Actuaries (UK). He has a first class honours degree from the London School of Economics and Political Science, and a Masters degree from Columbia University, New York.

Asif John is an Actuary and Data Scientist in the reinsurance sector, with several years of performing in c-level leadership roles within his domain. He is the current Chairman of the IFoA Data Science WP. He also a visiting Guest Lecturer at the London School of Economics and Political Science.

In this talk, I will begin with a brief discussion on modelling philosophy from a personal perspective and then introduce a highly flexible nonlinear regression model for multivariate claim frequencies and severities with the modelling philosophy. This model is interpretable and able to fit any types of claim data accurately which in turn will minimize the issue of model selection, and it can be estimated by an EM algorithm.

Model implementation is illustrated by a simulation study and a real data application. The real data application involves fitting the multivariate claim frequency data from a European auto insurer. The model enables us to interpret the fitting in an insurance perspective and to visualize the relationship between policyholders' information and their risk level, as well as the usefulness for insurance ratemaking. I will also briefly describe a R package we have developed for this model.

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Tuesday 24 November 2020, 6-7pm ƿ

Tuesday 1 December 2020, 6-7pm þ Dimitris Karlis

Dimitris Karlis is Professor at the Department of Statistics, Athens University of Economics and Business (AUEB). He received a BSc. in Statistics from Department of Statistics, AUEB in 1992 and a PhD in Statistics from the same department in 1999. He has been elected as assistant professor since 2004. He has published approximately 80 papers in peer reviewed statistical journals. His research interest refer to mixture models, computational statistics and especially stochastic algorithms, multivariate count data analysis, models for statistical analysis for sports data and modeling dependent data via copulas. He is Associate editor of Metron journal, Communications in Statistics (both Theory and Methods and Computation and Simulation), IMA Journal of Management Mathematics and Stochastic Environmental Research and Risk Assessment, while he has acted as referee for more than 135 papers. He is also editor of Biometrics Bulletin of IBS. He has supervised 4 PhD student, 18 Master thesis, while at this moment he supervises one PhD student. He has been invited in several conferences around the world. He is member of the American Statistical Society, elected member of the International Statistical Institute, member of the International Association of Statistical Computing, publicity officer of the Eastern Mediterranean Region of the International Biometrics Society and member of the Greek Statistical institute. He has also participated in several European projects related to statistics and mainly to official statistics. He was recently awarded the XII Insurance Award ďGfssbo!Bsnfohpm!j!Uvcbv!gspn!uif!Dbubmbo!Fdpopnjd!Tpdjfuz! (http://www.ub.edu/riskcenter/2019/05/30/bermudez-and-karlis/)

Bivariate Ratemaking models for counts.

A typical problem in actuarial literature relates to ratemaking, i.e. to calculate a fair premium for the policyholders based on their characteristics. While the literature on the univariate case, i.e. when one type of claims is treated is vast, less is developed for the case of bivariate/multivariate counts, i.e. when more types of claims are examined together and hence the cross-correlation needs to be taken into account. To this direction, this talk aims at presenting some models and new results towards ratemaking for multiple type of claims. In particular we present models that can take into account issues like time dependence and cross dependence that have been treated as separate entities so far. We have developed models to take them into account together. Applications with real data will be discussed.

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Archive of Actuarial Science Seminars – Lent Term 2021

Wednesday 3 February 2021, 8-9pm p Jules Gribble and Asif John

ibt!pwfs!41!zfbst!!fyqfsjfodf!jo!qspgfttjpobm!gjobodjbm!tfswjdft!bt!bo! actuary, policy setter and educator. He has published over 60 professional papers and delivered many presentations and training programs, as well as establishing several successful actuarial consulting firms. He is currently serving his second term as a member of the Council (Board) of uif!Bvtusbmjbo!Jotujuvuf!pg!Bduvbsjft-!ibt!sfqsftfoufe!Bvtusbmjb!po!uif!JBB!t!Bewjdf!boe!

He studied risk management and insurance at The College of Insurance (now the SRM) and Georgia State University. He specializes in insurer/market/country analysis, regulation and critical issues in product and market development.

Commercial use of parametric insurance.

This seminar offers a comprehensive review of parametric insurance from a contractual viewpoint. We propose a new categorization of parametric insurance. It outlines the benefits and concerns of parametric insurance in comparison to indemnity-principle based insurance, and discuss the regulatory compliance matters. There has been a rise of innovative parametric insurance solutions in recent years covering a wide range of risks and serving clients l individuals, businesses and governments. This seminar surveys the current global market and identifies areas where insurance and reinsurance companies can play important roles in offering or supporting parametric insurance operations.

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Wednesday 17 February 2021, 6-7pm ͵ Asif John

Asif John has over 20 years of experience in the Insurance and Re-Insurance sector coupled with multiyear experience of performing leadership roles in his domain. A qualified Actuary, he is the CEO of ARGenesis Consultancy Management and is proud to be the current Chairman of the IFoA Data Science WP/MIG. This role also includes being part of the IFoA Board on the Data Science Steering Committee, contributing strategy branding for the IFoA for all areas.

Micro-placements, internships and career opportunities for 2nd and 3rd year BSc Actuarial Science students.

About micro-placements, internships and its detail in what it takes to become successful in the insurance industry.

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In this seminar we will discuss opportunities for Actuarial Science students at Hymans Robertson. The talk will be given by recent graduate Meera Devlia (Investment Analyst), Karyn Cooke (Actuary) and Noosha Razaghi (Actuary).

Hymans Robertson provide independent pensions, investments, benefits and risk consulting services, as well as data and technology solutions to a range of clients.

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