CURRICULUM VITAE

Takaaki Koike

University of Waterloo

Born 21st of December, 1992 in Mie (Japan), Japanese citizen, Single

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1. Education

Keio University	Bachelor (Engineering)	2015

Thesis : “VaR Bounds and the Case Study Using Rearrangement Algorithm“, advised by Mihoko Minami

Keio University	Master	2017

Thesis : “Computation of Risk Contributions with MCMC“, advised by Mihoko Minami

2. Affiliation

University of Waterloo PhD Student (6th term) 2017-date

PhD of Actuarial Science
supervised by Marius Hofert:
http://www.math.uwaterloo.ca/~mhofert/

Keio University	Master Student	2015-2017
ETH Zürich	Visiting Student	Sep, 2015 -Feb, 2016
Keio University	Undergraduate	2011-2015

3. Research Interests

- Quantitative risk management
- Risk aggregation and risk allocation
- Model uncertainty in risk aggregation
- Copula and modeling of dependence
- Extreme value theory and its application
- Computation with Monte Carlo in Finance
- Markov Chain Monte Carlo
- Measure of dependence / association
- Neural network
- Rare event simulation

4. Honors/Prizes/Awards

- "Sprott Scholarship for 2019"
  of University of Waterloo
  (July, 2020)

- "Statistics & Actuarial Science Chair Award"
  of University of Waterloo
  (November, 2018)

- "Statistics & Actuarial Science Chair Award"
  of University of Waterloo
  (March, 2018)

- "Statistics & Actuarial Science Graduate
  Award (Teaching Assistant Award)"
  of University of Waterloo
  (February, 2018)

- "Statistics & Actuarial Science Doctoral Entrance
  Award" of University of Waterloo
  (September, 2017)

- “Outstanding Student Presentation Award” at the 10th Japan Statistical Meeting in Spring (March, 2016)
- “Fujiwara Award” of Faculty of Science and Technology, Keio University (2015)

4. Membership of Professional Societies

- Japan Statistical Society
- Institute of Actuaries of Japan (Associate)

5. Teaching

- Teaching Assistant in Keio University:

  “Mathematical statistics 1 and its exercise”
  to undergrads (Mihoko Minami and Kenichi Hayashi)

- Teaching Assistant in University of Waterloo:

  [Winter 2020] STAT 340 Computer Simulation of Complex Systems
  (Marius Hofert)
  [Winter 2020] ACTSC 371 Introduction to Investments
  (Arash Soleimani Dahaj and Peter Blake)
  [Fall 2019] STAT 901 Theory of Probability
  (Alexander Schied)
  [Fall 2019] ACTSC 445/845 Quantitative Enterprise Risk Management
  (Erik Hintz)
  [Spring 2019] ACTSC 371 Introduction to Investments
  (Surya Banerjee)

[Spring 2019] ACTSC 445/845 Quantitative Enterprise Risk Management
(Erik Hintz)
[Winter 2019] STAT 230 Probability
(Adam K Kolkiewicz, Changbao Wu, and Gregory Rice)
[Winter 2019] ACTSC 446/846 Mathematics of Financial Markets
(Ruodu Wang)
[Fall 2018] STAT 240 Probability (Advanced Level)
(Marius Hofert)
[Fall 2018] ACTSC 371 Introduction to Investments
(Surya Banerjee)
[Spring 2018] STAT 231 Statistics
(Alla Slynko and James Adcock)
[Spring 2018] ACTSC 445/845 Quantitative Enterprise Risk Management
(Marius Hofert)
[Winter 2018] STAT 341 Computational Statistics and Data Analysis
(Reza Ramezan)
[Winter 2018] ACTSC 455/855 Advanced Life Insurance Practice
(Diana Skrzydlo)
[Fall 2017] STAT 433/833 Stochastic Processes
(Yi Shen)
[Fall 2017] ACTSC 431 Loss Models 1
(Mirabelle Huynh)

6. Publications

[1] Koike, T., and Hofert, M. (2020). Markov Chain Monte Carlo Methods for Estimating Systemic Risk Allocations. Risks 2020, 8(1), 6; https://doi.org/10.3390/risks8010006

[2] Hofert, M., and Koike, T. (2019). Compatibiity and Attainability of Matrices of Correlation-Based Measures of Concordance. ASTIN Bulletin, 1-34.

[3] Koike, T., and Minami, M. (2019). Estimation of Risk Contributions with MCMC. Quantitative Finance, 1-19.

[4] Koike, T., Minami, M. and Shiraishi, H. (2016). "Calculation of Value-at-Risk Bounds using Rearrangement Algorithm". (in Japanese), 日本統計学会誌 (*Japanese Journal of the Japan Statistical Society*), **45**(2), 353-375.

7. Talks

- "Compatibility of matrices for correlation-based measures of concordance" CFE-CMStatistics at University of London in December, 2019.

- "Compatibility and attainability of matrices for correlation-based measures of concordance" Japanese Joint Statistical Meeting at Shiga University in September, 2019.

- "Compatibility of matrices for correlation-based measures of concordance" *Wednesday seminar at Keio University in May, 2019.*

- "Compatibility of matrices for correlation-based measures of concordance" *3rd SAS/WatRISQ Research Presentation Day at University of Waterloo in February, 2019.*

- "Efficient computation of risk contributions by using MCMC" *Keio Symposium on Risk Assessment*, *at Keio Univ in September, 2016.*

- "Computation of risk contributions with MCMC on VaR-fiber", *Japanese Joint Statistical Meeting, at Kanazawa University in September*, 2016.

- "Efficient computation of risk contributions by using MCMC" *Boston University/Keio University workshop*, *at Boston University in August, 2016.*

- "Rearrangement Algorithm in Financial Risk Assessment and its problems" (in Japanese), *Japan Statistical Meeting in Spring*, *at Tohoku University in March, 2016.*

8. Scholarship/fellowships

- *Japan Society for the Promotion of Science (JSPS) under the Core-to-Core program at Keio University*
- *Scholarship in Honor of Kei Mori and Lawrence Robert Klein at Keio University*

Lastly updated on July 18th 2020 at Waterloo, Canada.