

Title

AI in Actuarial Science: Two Years on

Speaker/Company

Ronald Richman / SA Taxi

Abstract

Deep neural network models have substantial advantages over traditional and machine learning methods that make this class of models particularly promising for adoption by actuaries. In the past few years, many different applications of these models have appeared in the actuarial literature. Drawing on recent work, in this talk we will journey through recent advances in deep learning applied to actuarial topics, covering advances in representation learning for actuarial purposes, structuring deep networks for explainability and uncertainty estimation. We also cover advances in model interpretability and avoiding direct and indirect discrimination in supervised learning and will conclude with open research topics in AI applied within Actuarial Science.

Biography

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Merz, M., Richman, R., Tsanakas, A., & Wüthrich, M. V. (2021). Interpreting Deep Learning Models with Marginal Attribution by Conditioning on Quantiles. SSRN Electronic Journal.

Perla, F., Richman, R., Scognamiglio, S., & Wüthrich, M. V. (2021). Time-Series Forecasting of Mortality Rates using Deep Learning. Scandinavian Actuarial Journal, 1–27.

Richman, R. (2021). Mind the Gap-Safely Incorporating Deep Learning Models into the Actuarial Toolkit. SSRN Electronic Journal.
