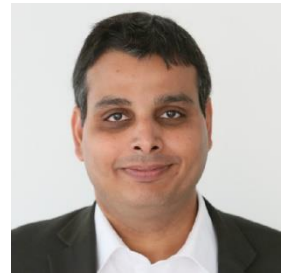


Shaleen Srivastava

CEO, Goleyo, and Committee Member,
Standing Committee on Artificial Intelligence
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Transportation Research Board (TRB)



Bio

Shaleen is a recognised expert in emerging transportation technologies. From connected and autonomous vehicles (CAVs), shared and on-demand urban mobility, e-mobility, intelligent transportation systems (ITS), IoT/IIoT, big data analytics in transportation, to intermodal transportation planning and simulations and modelling.

Shaleen is also highly accomplished machine learning (ML) expert and a recognised leader in Artificial Intelligence applications in intelligent mobility. Recently, Shaleen's expertise has been recognised on an international scale, as he was appointed as a distinguished committee member of the Standing Committee on Artificial Intelligence and Advanced Computing Applications in the Transportation Research Board, USA. In this prestigious role, he plays a vital part in ensuring due diligence is carried out on AI technology and advanced computing applications and knowledge share in both public and private transportation systems.

Presentation

Automatic scenario generation for transport planning/modelling using artificial intelligence

Artificial intelligence (AI) has revolutionised transportation modelling, extending its influence from data synthesis and analysis to model development, calibration, and scenario planning. It has enabled modellers to extract valuable insights from complex datasets, enhancing the accuracy and efficiency of our transport models.

AI techniques, such as trend analysis, evolutionary machine learning, and neural networks, have been instrumental in tasks like estimating boarding and alighting from smartcard data, synthesising time-varying populations, and generating activity schedules from travel diary surveys. These techniques have also facilitated the estimation of flows and capacities from speed data using particle swarm optimization, providing crucial technique to automate model calibration, whether macro, meso or micro.

The application of AI extends beyond data analysis and model development. It has enabled the automation of scenario generation using feature selection, allowing for rapid testing of various planning and policy options related to traffic operations.

Focus of my this presentation will be to delve deeper into the automation of scenario generation, showcasing how AI is transforming transport modelling and enabling informed decision-making in the transportation sector.