Credit Risk modelling and loss forecasting

Sumaiya Sande, Wells Fargo

Credit risk modelling and loss forecasting are essential tools that help financial institutions assess the likelihood of borrower default and estimate potential financial losses. These models play a critical role in lending decisions, capital planning, regulatory compliance, and overall risk management. Traditionally, statistical techniques such as logistic regression and scorecard models have been widely used for credit risk assessment. However, the growing availability of financial data and advances in artificial intelligence have led to the adoption of machine learning models that offer improved predictive performance. This presentation provides an overview of the key concepts of credit risk modelling, including Probability of Default (PD), Exposure at Default (EAD), and Expected Credit Loss (ECL). It also compares traditional and modern forecasting techniques, discusses the challenges associated with model development and validation, and highlights the importance of explainable and robust models in meeting regulatory requirements.

The Statistical Foundations of Modern Ad Tech

Swastika Mohapatro, Google

The rapid growth of digital advertising has led to the development of complex decision-making systems that operate at massive scale and under considerable uncertainty. From selecting which advertisement to display, to measuring campaign effectiveness and optimizing advertiser spend, statistical methods remain fundamental to the design and evolution of these platforms.

This talk will explore the role of statistics in modern ad technology through a selection of representative industry applications such as real time bidding, conversion prediction and multi touch attribution. It will highlight the practical statistical challenges encountered in real world systems and methodologies built to address them. The presentation aims to provide a practitioner's perspective on the intersection of statistics, large-scale data and online advertising.

Leveraging Data Science for species distribution modelling and risk assessment of alien invasive weeds

Yogita Gharde, ICAR–Directorate of Weed Research (ICAR-DWR), Jabalpur, India.

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Statistical thinking to Policy Impact-Navigating Disease Modeling & AI for Viksit Bharat

Sharvari Shukla, Symbiosis Statistical Institute, Symbiosis International University

The study synthesizes tertiary care insights with advanced epidemiological forecasting to drive data-driven policymaking for Viksit Bharat. Utilizing robust empirical datasets including clinical predictors of ICU requirement among COVID-19 patients and time-dependent modeling of oncology disease progression during pandemic disruptions, we demonstrate how advanced statistical thinking refines public health governance. By deploying accelerated failure time (AFT) frameworks and auto-regressive structures, we capture non-linear transmission dynamics and systemic vulnerabilities. Further, this approach transforms raw clinical data into optimized disease models and AI-driven early-warning systems, building a resilient, self-reliant healthcare infrastructure.