

# **While you use Machine Learning for Preventive and predictive Modeling and Magnifying Your Expertise: Challenges and Solutions**

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The design of a preventive and predictive model could be particularly challenging due to the unavailability of labeled data, highly imbalanced and the non-stationary distribution of the labeled data (concept drift), and the targeted concept. In general, there is no single strategy, which is consistently the best one, and the classification performance depends on the application as well as the nature and quality of the data. In this session, we try to present issues and challenges for developing ML models using for in dealing with targets in cybersecurity venues, such as detecting a needle in a haystack, high dimensionalities, and evolving adversaries threats and proposes some techniques and solutions to address them. Then we show that the proposed techniques and remedies are applied to a sample imbalanced evolving data to demonstrate the significance and effectiveness of the proposed techniques.