

## A Probabilistic Extension of $\tau SR$ Logic

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Probability theory deals with the challenges posed by uncertainty, while logic is more used for reasoning with perfect knowledge. Probabilistic logic combines capability of probability and logic. It gives expressive and flexible platform to model and reason problems coming from with Artificial Intelligence (AI).

In this talk we propose probabilistic extension of  $\tau SR$  logic. In particular, we defined Herbrand universe for formula **A** of the  $P\tau SR$ -logic, Herbrand base, Herbrand Interpretation and the following theorem is proved.

**Theorem:** A formula **A** of  $P\tau SR$ -logic is unsatisfiable if and only if A is false under all the  $\tau SR$ -interpretations.