1ST PAN AFRICAN CONFERENCE ON ARTIFICIAL INTELLIGENCE AND SMART SYSTEMS
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Tutorial

on

The Ubiquity of the Bayesian Paradigm in Artificial Intelligence and Statistical Machine Learning

by

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Date and Time
09 October 2021, 09:00 – 13:00

Prerequisites

Calculus, Vector and matrix algebra,Basic Probability, Basic Statistics, Basic Algorithmics, Basic Knowledge of R and/or Python**,** Familiarity with data manipulation.

Abstract

The Bayesian paradigm directly or indirectly permeates almost every single aspect of the building blocks of statistical machine learning, providing a natural and almost quintessential framework for reasoning about and solving all kinds of artificial intelligence and data science problems. Mindful of this all-pervadinginfluence and natural appeal, this four hour tutorial aimed at both practitioners and methodologists, will travel the length and breadth of the Bayesian school of thought as pertaining to its use in artificial intelligence, with the finality of highlighting and evidencing its ubiquity, but even more crucially its appealing and compelling usefulness and practicality in applications, computation, methodology and theory. This extended tutorial will unfold at the rhythm of the four aspects of statistical machine learning, namely:

- (**A**) Applications [1st hour]
- (**M**) Methodology [2nd hour]
- (**T**) Theory [3rd hour]
- (**C**) Computation [4th hour]

Objectives

Upon completing this extended tutorial, the participant shall not only appreciate the ubiquity and practical usefulness of the Bayesian paradigm in statistical machine learning and artificial intelligence, but also build/construct a formidable arsenal replete with powerful tools for tackling and solving a wide variety of impactful problems