



統計科學研究所

INSTITUTE OF  
STATISTICAL SCIENCE



統計所學術演講



中研院統計所

## Seminar

Title : Investigating Drivers of Inflation Rates in Nigeria  
using Supervised Machine Learning Techniques

Speaker : Prof. Monday Osagie Adenomon

( Department of Statistics, Nasarawa State University,  
Keffi, Nigeria & NSUK-LISA Stat Lab, Nasarawa  
State University, Keffi, Nigeria )

Time : 10:30 ~ 12:00, Thursday, January 25, 2024

Place : Auditorium, B1F, Institute of Statistical Science

## Abstract

Machine Learning to Finance and economics in Nigeria is becoming popular because of its potential over the classical time series models. High inflation rate is a big economic problem plaguing the economic and standard of living of citizens of developing countries especially Nigeria. This work focused on investigating drivers of inflation rate in Nigeria using Multiple Linear Regression, Support Vector Regression, Artificial Neural Network and Random Forest Regression Machine learning techniques. To achieve the aim of this work, monthly data covering the period of January 1999 to December 2022 was sourced from a secondary source, National Bureau of Statistics, Abuja, Nigeria. The data was divided into 80:20 for training and testing the models respectively. The least values of the Mean Absolute Error (MAE) and Root Mean Square Error (RMSE) were used to judge the performance of the techniques. Results show that the Random Forest Regression ranked first in the overall. Lastly, Housing and Water, Furnishings, Clothing, Food, Transport and Health are the major drivers of inflation rate in Nigeria. Detail discussion and implication are presented in the paper.

Keywords: Inflation Rates, Supervised, Machine Learning, RMSE, MAE.

※ Tea reception starts at 10 : 10.

※ Online live streaming through Cisco Webex will be available.