

International Conference and Advanced Workshop on Modelling and Simulation of Complex Systems



Contribution ID: 45

Type: **not specified**

Investigating the complexity in human mobility using information theory

Tuesday, 28 May 2024 11:00 (10 minutes)

Authors: Fuwape I. A., Rabi A. B., Ogunjo S. T., Oludairo A. G.

ABSTRACT

Human mobility patterns are a complex system driven by several dynamics. The amount of information available in human mobility to different places can give insight to urban and economic development. In this study, information theory was used to analyze human mobility to six different places (retail and recreation centers, grocery stores, pharmacies, parks, transit stations, workplaces, and residential areas) in the 36 states of Nigeria over a period of three years. Our results showed that the entropy of mobility within workplace has the highest complexity. It was also found that the entropy values of mobility correlate with GDP and population of the location. Furthermore, the network analysis of entropy values was computed to determine clusters and connection in mobility across states of Nigeria.

Primary authors: ADETEJU, Oludairo; Dr OGUNJO, Samuel Tolulope (Supervisor)

Presenter: ADETEJU, Oludairo

Session Classification: Technical session 2

Track Classification: Technology: Information and Communication Technology