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Investigating the complexity in human mobility using information theory

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

ABSTRACT
Humans mobility patterns are a complex systems 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

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

Presenter: ADETEJU, Oludairo

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