

Novel Application in Machine Learning: Predicting the Issuance of COVID-19 Stay-at-Home Orders in Africa

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During the COVID-19 pandemic many countries have issued stay-at-home orders (SAHO) to reduce viral transmission. Because of their social and economic consequences SAHO are a politically risky decision for governments. Within the health policy literature five factors are identified as theoretically significant to the issuance of SAHO: economic, external, medical, political, social however research exploring the relative importance of these factors is limited. To test this hypothesis, we apply a random forest classifier to a novel dataset of n=54 African countries. Our dataset includes a wide range of variables from the World Bank, World Health Organization, and State Fragility Index. Generated using 10000 simulations, our model predicts the issuance of SAHO in our sample with >80% accuracy based on six variables.

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