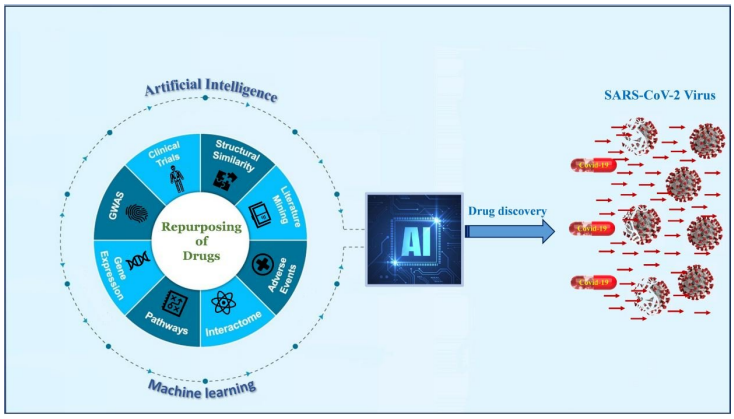
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IIT-R leverages AI to predict FDA approved drugs to tackle COVID-19

12 November 2020 | News

The Machine Learning (ML) model based on the naive Bayes algorithm was used to predict the drugs that could be used for the treatment of COVID-19.



Amid the rapid transmission of COVID-19, a group of scientists from IIT Roorkee (IIT-R), led by Prof Soumitra Satapathi have leveraged Artificial Intelligence (AI) to predict 10 FDI- approved commercial drugs available for the treatment of the disease. The study has been published in the prestigious journal PLOS One. The other co-authors of the study include Sovesh Mohapatra, Prathul Nath, Manisha Chatterjee, Neeladrisingha Das, Deepjyoti Kalita and Partha Roy.

The complexity in drug design and protocols regarding clinical trials often inhibit the process of developing various new drug combinations for the disease. IIT Roorkee scientists have successfully deployed Machine Learning-based-AI techniques to predict the commercial drugs that could be used for the treatment of COVID-19.

"Our study predicts around ten FDA approved commercial drugs that can be used for the treatment," says Prof Satapathi, Principal Investigator and an Associate Professor of Physics in IIT Roorkee.

Many of the predicted drugs are already in use for the treatment of COVID-19, and some are in trials.

"Given the need of the present time, the present approach will save a lot of resources and time for synthesising novel drugs and thus will be useful for a vast majority of the medical research community," Prof Satapathi added.

The Machine Learning (ML) model based on the naive Bayes algorithm was used to predict the drugs that could be used for the treatment of COVID-19. The study shows that around ten FDA approved commercial drugs can be used for repurposing. Among all, it has also been found that the antiretroviral drug Amprenavir would probably be the most effective drug based on the selected criterions.