

SPECIAL SESSION SS22:
**Advances of Artificial Intelligence and Data Science
for Detection, Prevention and Treatment of
COVID-19 Pandemic**

Organizers:

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Coronavirus disease 2019 (COVID-19) is the cause of an outbreak of respiratory illness that has spread havoc and has caused innumerable fatalities resulting in lock-down throughout the world. The objective of this special session is to discuss key ideas related to how Artificial Intelligence and Data Science can help in tackling the global pandemic. Analysis of the publicly available COVID-19 related data sets is likely to provide insights regarding rate of spread of the disease in a certain geographical area, or prediction of the number of fatalities and/or new infections in the subsequent days. Such information will be significantly helpful for the government to take suitable measures for controlling the rate of transmission of the disease. Additionally, Artificial Intelligence can assist medical practitioners in early detection of the COVID-19 infection from symptoms or lung images, drug discovery for proper treatment, retrieving relevant medical documents, etc. The session will bring out innovative AI-based solutions to the above problems and new data sets for further research to mitigate the COVID-19 pandemic.

Topics of Interest include, but are not limited to...

- Retrieving relevant documents published in medical care
- CT image analysis for identifying COVID-19 pneumonia patients accurately
- Machine Learning-based analysis of how geography affects virality
- Machine Learning-based drug discovery for treatment of patients affected with COVID-19
- Prediction of geographical area-wise infection rate and fatality rate
- Predicting which sections of the society are worst affected due to lock-down

Links to some publicly available data sets for research related to COVID-19 are:

1. <https://github.com/UCSD-AI4H/COVID-CT>
2. <https://www.kaggle.com/allen-institute-for-ai/CORD-19-research-challenge>

New data sets related to COVID-19 are also welcome.