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Submission 3	
Title	Federated Learning and Deep Learning Architecture for Pneumonia Classification using Chest X-Ray Images
Paper:	(Jan 04, 07:56 GMT)
Track	T04: Data analytics, AI, and Computational Science
Author keywords	Pneumonia Deep Learning Federated Learning X-ray images dataset
Abstract	Pneumonia Detection has been a real problem for the last few centuries. Detecting Pneumonia has been a job for the skilled, such as doctors and medical practitioners. Visiting doctors in this time in many countries is very tough with Covid-19 on the rise and stricter lockdown regulations. Deep Learning has helped build many systems and algorithms over the years to detect pneumonia using X-ray images. Such Deep Learning models are first trained on many X-ray images that would be collected from multiple hospitals and diagnostic centers and then can be deployed centrally for people to use them. However, building such models is impeded by the problem of garnering mass data from hospitals due to data confidentiality between patients and hospitals. For that, we propose a system where detecting Pneumonia would be done using a Deep Learning model with a Federated Learning approach and achieve an accuracy of around 90%. This will build a central model by training local models in different hospitals with their own data, maintaining all patient data privacy.
Submitted	Jan 04, 07:56 GMT
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