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Secure personalized federated learning within the AI4EOSC platform

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Federated learning aims to revolutionize the scene when it comes to training artificial intelligence models, in particular deep learning and machine learning with distributed data. Emerging as a privacy preserving technique, it allows to train models without centralizing or sharing data, preserving their integrity and privacy. Moreover, different studies show that in some cases it also offers advantages from the point of view of accuracy and robustness of the developed models, but also regarding savings in energy consumption, computational cost, latency reduction, etc.
In this demonstration, we will showcase how to carry out the implementation of a complete federated learning system in the AI4EOSC platform. Specifically, during the session we will perform the live training of an AI model under a personalized federated learning approach. This federated training will be done with multiple clients using distributed data in different locations (including resources from the platform itself, but also from the EGI Federated Cloud), simulating a real world application, including participation from the audience in the overall training process.

Topic

Needs and solutions in scientific computing: Artificial Intelligence

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