AI/ML data and model sharing

This is a collective workspace for exploring how to apply open source processes to the development of AI/ML models for use in the operations of intelligent networks.

Ideas on data sharing

Ideas on specific use cases to lead the exploration

- If you are an operator or vendor that would like to propose a use case - please add it to the table
- If you are an operator or vendor that is interested in one of the listed use cases - please add your name to the table together with proposed contributions, if any

Use Case	Description	Interested Developer	Interested Operator
< sample use case>	***<In this use case ML is used to predict lightning strikes on cell towers>***	**Company 1: *<Acme Inc.>*** **Contact person1 : *<Dr. Emmett Brown>*** ***Proposed contribution1:<models, algorithms. etc>*** **Company 2: *<Hooli Inc.>*** **Contact person2 : *<Gavin Belson>*** ***Proposed contribution2:<models, algorithms. etc>***	**Company 1: *<Western Union>*** **Contact person 1: < *Marty McFly>*** ***Proposed contribution 1:<access to lab, data lake, anonymized data set, etc.>***
Congestion Prediction & Mitigation	This use case will demonstrate how AI/ML may be used to predict congestion and perform closed loop automation for executing configuration changes to mitigate.	**Company 1: Samsung** **Contact person 1:** Ranny Haiby ***Proposed contribution 1:****O-RAN-SC xApp, non-RT RIC, rAPP & AI server* **Company 2:** **Contact person2 :** ***Proposed contribution2:***	
Sleeper Cell Detection	Predict a cell going to "sleep" and handover a critical UE (e.g. ambulance) to another cell.	**Company 1: Samsung** **Contact person 1:** Ranny Haiby ***Proposed contribution 1:****O-RAN-SC Non-RT-RIC rApp 2020 October Virtual Technical Event Topic Proposals#2020OctoberVirtualTechnicalEvent TopicProposals-ONAP: A1PolicyenforcementwithNon-RTRIC* **Company 2:** **Contact person2 :** ***Proposed contribution2:***	
Traffic Steering	Improve Quality of Experience (QoE) by steering UE traffic among multiple cells.	**Company 1: Samsung** **Contact person 1:** Ranny Haiby ***Proposed contribution 1:****O-RAN-SC xApp* **Company 2:** **Contact person2 :** ***Proposed contribution2:***	
Soft fault detection and resolution	Detect "soft" faults that are not often caught because they are hidden by the redundant systems. Example, would be faults that bounce for a short time, so are ignored by service assurance. We want to use AI/ML to detect patterns of faults to uncover the ones that might not have an immediate impact on network performance, but will over time as the network degrades.	**Company 1: Verizon** **Contact person 1:** Beth Cohen	

Deterministic Predictive capacity planning	Ability to detect usage patterns so that the network can be used more efficiently, don't need to built to peak.	**Company 1: Verizon** **Contact person 1:** Beth Cohen	

Ideas on managing privacy of data and models

- One possibility is looking into federated AI learning. For an example, see: https://github.com/IBM/federated-learning-lib

Background data

Results from the EUAG "Intelligent Networks" survey Data_All_210106.pdf

Notes from 17 Feb 2021 EUAG/TAC discussion

Notes from 17 Mar 2021 EUAG/TAC discussion

Telecom Italia Big Data Challenge