AI/ML Breakout

Scope of AI/ML in networking

What can we use AI/ML for?

• Network operation, network management

• Can you create self-learning system – e.g. a router

• Classify encrypted traffic using AI/ML

  • Learn from unencrypted traffic and apply to encrypted traffic

Is the application worth the investment:

• Collect data, create tools, …

Getting Data

How do we get the right set of data

- Can we label data – how do we get data sets labelled data

- Too much humans to classify

Get started with application data e.g. from YouTube

- Statistics from end devices

Do we need machine learning?

- In many cases analytics is good enough

Not much labelled data for network available

- Data is use case specific

New services with AI/ML

Create new services/better services

- Recommender system for digital services:
  - Today: data, voice, video
  - Broader set of services – recommend packages
- Learn what are the characteristics of a service e.g. a game
  - Add extra quality of service
  - How do you learn that?
  - Hit the stop button = stop a game after 5 min
- Can you learn that someone is a gamer?
  - Learn peoples interest based on data
  - Improve network quality for targeted customer (e.g. every Friday night user plays game)
- Automatic traffic classification for network slices in 5G

A Common System

Bring everything under a single umbrella

- Cannot afford every use case on its own

- Bundle it in a single system

- Machine learning platform for network traffic

- ML models for network traffic

- Can we get datasets so we can build these models
  - What are the features we are looking for? What is the use case?