Abstract:

Customer churn is a term used to identify the customer who chooses to stop using a company's products or services. In effect, it's when a customer ceases to be a customer.
Customer churn is one of the biggest challenges in every business and especially in the telecom industry where it is so easy for customers to move to another operator.
Many telecom companies use data science techniques to predict and understand customer churn.
Many junior data scientists and machine learning engineers fail measurably when building predictive models for telecom churn, the main reason is the lack of business mindset when building those models, resulting in building sophisticated models with no impact on the business metrics that matter the most.

Outlines:

In this session we will try to showcase the best strategies telecom operators use in order to build churn predictive models. We will talk about the different modeling approach (ML Vs Statistics) and evaluation metrics for predictive models (Accuracy, Recall, Precision, AUC, Lift, ect….) and when and where prioritize a given metric against all others.

We will also show an example of a prediction model starting from the collect of the data until putting the model into production.

The scripts are written in the R language, but you can easily follow the process and the different steps and replicate such models with any other language of your choice. The most important thing here is to have an idea on how to build models that deliver value to the company.

Although no requirement is needed for this session apart from a basic understanding of ML and data science techniques

References:

 it is recommended that you get the time to read about the below topics.

- CRISP DM Methodology (https://www.the-modeling-agency.com/crisp-dm.pdf)
- Introduction to tidy models
  (https://rviews.rstudio.com/2019/06/19/a-gentle-intro-to-tidymodels/)
- More details about tidymodeling (https://www.tmwr.org/)
- Statistics Vs ML the two cultures http://www2.math.uu.se/~thulin/mm/breiman.pdf