IEEE Signal Processing Society
Machine Learning Study Group

Meeting Minutes for kick-off September 28, 2023, 10 am - 11 am EDT via teleconference
Recorded by Aly Artusio-Glimpse, NIST

1. Meeting called to order at 11:32 a.m. ET

2. Attendance and affiliations recorded

3. Motion #1: Approval of agenda
   a. Moved: Peter Vouras, US DoD
   b. Seconded: James Gilb, GA-ASI
   c. Discussion: None
   d. Result: Unanimously approved

4. IEEE SA Policies presented by Peter Vouras
   a. Call for Patents
   b. Copyright Presentation
   c. Participant Behavior Presentation

5. Discussion Topics
   a. Machine Learning Basics - with Apriori Algorithm,
      i. Challenges and need for scope definition in Machine Learning.
      ii. Machine Learning Basics – Supervised and Unsupervised Learning
      iii. Market Basket Analysis with Apriori algorithm
      iv. Need to scrutinize the resources for machine learning.
   b. Meta data and data formatting are needed for training data in RADAR and LIDAR.
      i. Ex: Like coordinate system each data type has its properties.
      ii. Ex: How for snowy roads, autonomous road navigator works.
      iii. Ex: What is the data we're using for molecular dynamics with Machine Learning?
      iv. How much data is enough? In RADAR application, do we need confidence interval associated with inference?
   c. Other discussion
      i. Which companies are active in the domain (Synthetic aperture, RADAR, SONAR, Image Processing)?
      ii. What Neural Network might be used? Wave forms, hardware parameters with Machine Learning, are they using super complex physics, 5G networks?
      iii. Scope of data simulation in Synthetic aperture

6. New Business
   a. Proposed workshop wherein experts from the field will speak and educate the study group in its development of the PAR. Anticipate early fall.
   b. Call for Vice Chair and Secretary volunteers

     i. Vice Chair – Corina Nafornita, volunteered
    ii. Secretary – Aly Artusio-Glimpse, NIST volunteered and James Gilb, GA-ASI volunteered to serve as back-up secretary
  c. Documents for this Study Group will be shared via [iMeet Central](#). Anyone who has difficulty accessing this resource can contact Aly via email for assistance.

7. Future Meetings:
  a. The next meeting time and date will be announced via email, (2nd November).

8. Meeting adjourned at <mark>11:02 p.m.</mark> ET