PLENARY EVENT

Capturing The First Picture Of A Black Hole & Beyond

a. Title of the session : Capturing The First Picture of a Black Hole Beyond

b. Speaker(s): Katherine Bouman (Aggelos Katsaggelos, Murat Tekalp).

c. Brief description of the topic:.The topic basically describe techniques of telescope photographing a black hole using a combination of a network of telescopes scattered across the globe from scratch (based theory to application and modification in plans). The work was developed from 2 classes of imaging algorithms, which are Inverse modeling and forward modeling and slits into 4 teams around the world for Blind Imaging, come to Imaging Pipelines step by developing 3 different script of image pipeline and finally look on Variance over the top set. Also, regarding the future development by applying the ML for optimal Telescope Design

d. What did you learn from the session?

To take the image of black hole, it requires a lot of works exceed from the national border. Thus, splitting works and collaboration is a major key role to become success.

e. What was the most relevant/important question from the audience to the speaker?

Are there any other black holes within the range EHT that can be captured image from the Earth telescope?

Tutorial

Generalized Operational Neural Networks

a. Title of the session : Generalized Operational Neural Network

b. Speaker(s): Alexandros Iosifidis , Serkan Kiranyaz, Dat Thanh Tran, Junaid Malik

c. Brief description of the topic: The topic at first give a brief discussion of deep learning development and neutral network operation optimization as wel as methods such as Pop, FastPop, Popmem and their implementation into image processing. At the end, the talk also introduce the PyGOP and FastONN library.

d. What did you learn from the session?

Using simple commands the PyGOP libabry such as how to import model, create an instance of model, get default parameter, and train model.

e. What was the most relevant/important question from the audience to the speaker?

The most relevant question is ONN and SelfCNN have a huge impact on Embedded System reducing memory requirement and computation clust. Have you try ONN on object detection problem on embedded system and if yes, how it is compared to other techniques such as mobile net SSD.