Neuromorphic Computing (Implementing AI/ Ml in Edge Devices)

Course Duration: 19th to 23rd June, 2023

A brief introduction of the course offered:

Systems Engineering (SE) is used worldwide for developing complex systems and for delivering the right system to the customer within budget and schedule. International Council on Systems Engineering (INCOSE) is a leading professional body for creating and dissemination of systems engineering knowledge. INCOSE has adopted International Standard ISO/IEC/IEEE 15288:2015 as the baseline for SE processes. INCOSE SE Handbook is an elaboration of this standard and doubles as course material for certification of SE. The proposed course "Systems Engineering Principles" is aligned to Technical Processes of INCOSE Handbook.

Course Contents: Introductory talk on SE Overview, Systems Thinking, Life Cycle Stages, Modelling & Simulation. Course shall focus on Technical Processes. Following are the Technical Processes: Business Or Mission Analysis, Stakeholder Needs & Requirements Definition Process, System Requirements Definition Process, Architectural Definition Process, Design Definition Process, System Analysis Process, Implementation Process, Integration Process, Verification Process, Transition Process, Operation Process, Maintenance Process, Disposal Process, Validation Process, Prototyping.

Take-away message from the course:

Systems engineering is a practice-based subject. All the technical processes of Systems Engineering may not be equally applied in a given project. It is highly dependent on the System complexity. Proposed course will have a group project involving a complex system wherein they can apply technical processes in designing the system. Participants will apply systems engineering principles learnt during the lectures hours to the group project. At the end of the course participants will have some understanding about different stages of complex systems development.

Instructor bio:

Prof. Hemendra Arya: Faculty Aerospace Engineering Department, IIT Bombay. Courses taught: Systems Engineering, Aerospace measurements, Modelling and Simulation, Aircraft flight Mechanics, Engineering design etc. Research areas: Mini Aerial Vehicles, Hardware-In-Loop-Simulation, System testing, Co-operative missions, etc. 20 deliveries of systems engineering course for working professionals.