

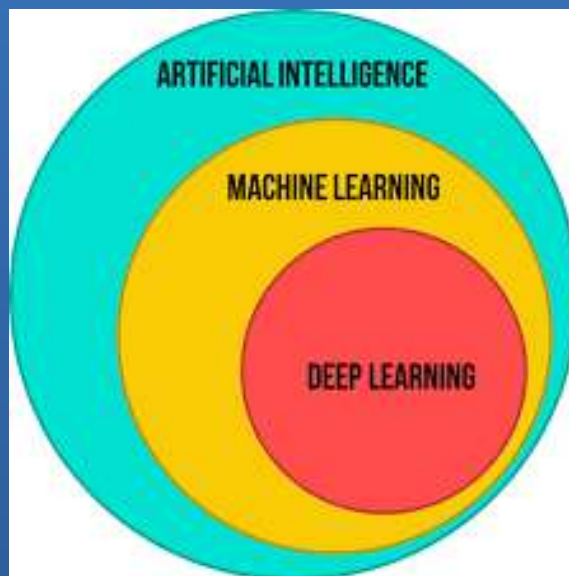
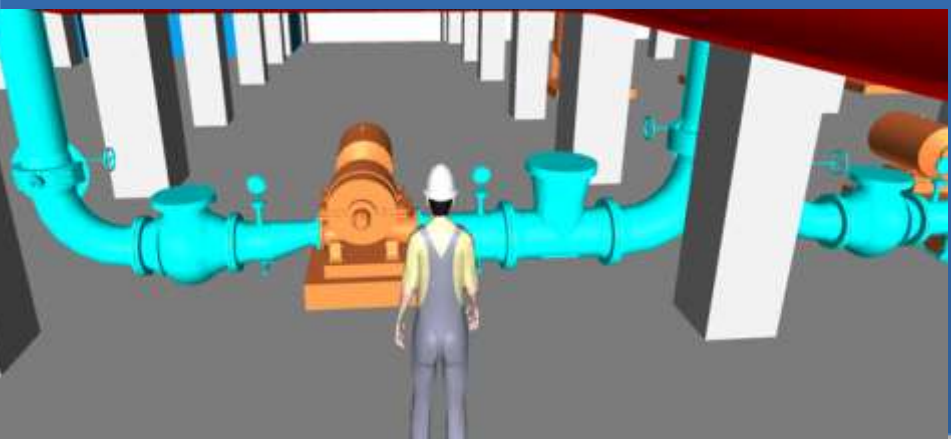
# Dr S Shamasundar

**ProSIM**



- IIoT
- Edge Computing
- Cloud Computing
- AI/ ML/ DL
- Data Analytics
- Digital Twins
  
- AR/VR
- ...

## Edge Computing



- What is a model?
  -
  
- What is simulation?
  -

- What is a model?
  - Mathematical model
  - Numerical model
  - Computational model
  - Digital model
  
- What is simulation?
  - Numerical simulation
  - Computer simulation
  - Digital simulation

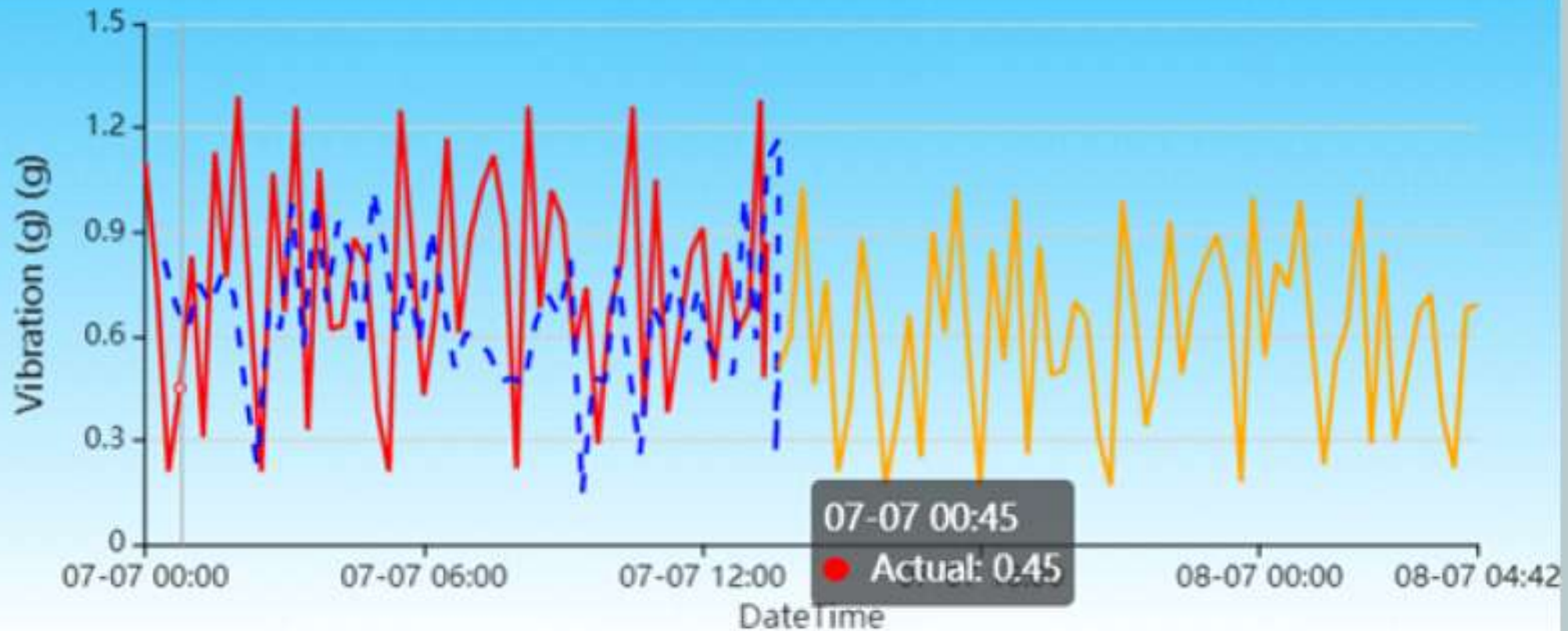
- Learning by past historical data of defects
- Quick easy way to predict defects and explore gating design options.
- Captures experience. And creates a knowledge base

- **Off-line simulation models (FEA, CFD)**
  - Hi- Fidelity Models
  - Physics based
- **On-line Models**
  - Low Fidelity
  - Without feedback loop
  - With feedback loop
  - Can be real time
- **Hybrid models**

# Predictive v/s Prescriptive

## Vibration: Prediction V/s Actual

● Actual ● Predicted ● Forecast





# Benefits of digitalisation

- Asset utilization, productivity / throughput increase
- Risk Assessment and mitigation
- Asset life enhancement
- Preventive maintenance
- Decision support mechanisms (for business processes, supply chain, etc)
- ...
- ....