Camera Project

Objective : To create a system that livestreams camera video locally on a screen, on the cloud using AWS Kinesis and perform AI/ML operations locally in the hardware itself.

Tools/Resources :

- Nvidia Jetson Nano
- IP Cameras
- Power over Ethernet cable (PoE)
- AWS S3 and Kinesis
- Display
- HDMI Cable

Points :

- Jetson Nano contains one Ethernet port so we are going to use 2 cameras, one connected to Nano by PoE and other using wireless connection
- We have a Linux OS installed on the Nano so we install gstreamer plugins necessary to capture the livestream from the cameras
- We use the gstreamer to stream locally on a display and also send it to aws kinesis for cloud view from a mobile or a web app
- We use the Jetson Nano hardware to perform AI/ML operations and store the data in an aws database
- AI/ML operations include : -
    - Facial recognition system for attendance
    - Text Recognition of vehicle number plate for various use cases such as identifying the vehicle, check whether blacklisted or not, location of the vehicle, etc..