Ai-MicroCloud™ for Manufacturing: Use Cases

Time Series Data Analytics

- **Predictive Maintenance:** With each cycle of operation, machine components' original physical parameters deteriorate, requiring diagnostic inspection, maintenance and replacement. Optimizing maintenance time has financial impact. Provides failure prediction and detection, root cause analysis, failure type classification and mitigation recommendation.

- **Asset Health Predictive Maintenance:** Increase return on assets with near real-time anomaly detection capabilities by forecasting equipment failure, reducing unplanned maintenance and increasing equipment uptime. Deploy models at all levels of manufacturing control operations – field level sensors, direction control level, plant supervisory level, production control level up to scheduling level.

- **Asset Failure Analysis:** Anomaly detection leading to explainable forecasts so engineers can do root cause analysis. Analyze impact of local operating conditions and/or specific configuration of the asset vis a vis normal wear and tear.

- **Supply Chain Strategy Planning:** Enable supply chains to (re-)act and adapt. ML can help create new, improve existing and evaluate more what-if scenarios. Maintain speed of innovation by predicting future market moves to align design initiatives, strategic product lifecycle planning and optimization, product maintenance design processes, etc.

Edge Video Analytics

Safety Gear detection: Detect number of objects such as safety vests, hardhats, bunny suit, safety glasses

Weld Porosity: Automatically detect porosity defects in gas metal arch welding. Classify as "normal" or "bad" weld

Intrusion Detection: Detect multiclass objects and alert when someone enters a restricted area