AI ENGINE ON EDGE PLATFORM - SMART HOME APPLICATION

Enabling intelligence on an edge Microprocessor to assist cloud based AI engine

**Scope**

- Porting real time AI applications on MCU Platform
- Optimizing AI algorithms for porting on low memory footprint devices
- AI based Gesture detection, User Posture recognition, Sound Analytics, Expression detection, Footstep detection etc.
- Optimization and simplification of AI inference engines retaining the accuracy
- Creating a demo setup to showcase the capabilities

**Challenges**

- Real time response
- Data set collection, cleansing, and segregation
- Optimization of algorithm to run on an embedded system

**Tools & Framework**

- TensorFlow, TensorRT
- Keras

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<th>Market</th>
<th>Business Benefit</th>
<th>Delivery model</th>
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<td>Smart home,</td>
<td>Distributed computing, Data Privacy</td>
<td>ODC</td>
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<td>Surveillance</td>
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EDGE AI FOR PREDICTIVE ANALYSIS - INDUSTRIAL AUTOMATION

Enabling Analytics at the Edge for Wafer Production Process

Scope

• Porting Ultra light DNN algorithm on a microcontroller
• Analysis of Conveyer belt operation, robotic gear movement
• Using rotary vibration history data for predicting abnormal and normal gear operations
• Implementing Predict Failure and triggering Schedule maintenance

Challenges

• Motor vibration analysis under different load conditions
• Anomaly detection in less than 0.10 sec

Tools & Framework

• TensorFlow, TensorRT
• Keras, PyTorch

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