



Features

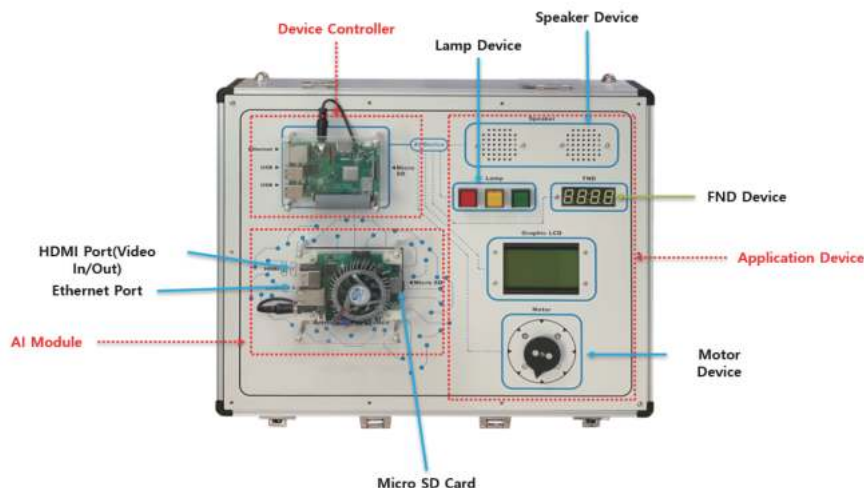
▪ Easy approach to AI technology

- The contents consist with Classification and Object / Position detection algorithm and the user can understand AI algorithm by experience various cases.
- Provide specialized deep learning software to easy approach & able to experience AI contents to user who doesn't know Deep Learning structure or AI algorithm.

▪ Development AI service

- Enable to develop simple AI service using specialized deep learning software by gathering learn materials, make a learn model.
- Encourages repetition make a simple various AI services to extend AI algorithm understanding.
- Base on the experience and understanding of AI, enable to create dynamic service by interworking with Embedded system.
- Enable to practice the Tensorflow basic programming.
- Enable to extend advanced course; MNIST, CNN, RNN algorithm

Specification



▪ AI Embedded Module - I

- Xilinx Artix-7 / Stossfest und vibrationsresistent / 32 MByte (256 MBit) Quad-SPI Flash-Speicher
- 4 GTP (Hochleistungstransceiver) Lanes / 1 GByte 32-Bit DDR3 SDRAM
- 10/100 MBit Ethernet PHY in RMII Mode / Programmierbare Low Jitter PLL
- Versorgungsspannung: entweder 3.3 V oder 3.3 V und 5 V
- Plug-on Modul mit 2 x 100-Pin und 1 x 60-Pin High-Speed stapelbaren hermaphroditischen Verbindungsstücken
- 158 FPGA Ein- und Ausgänge (78 differenzielle Paare) über Board-zu-Board Stecker verfügbar
- System Management und Power-Sequencing / Video In, Video Out / SD Card I/O / Beeper
- FAN Controller • Ethernet Port • Serial Port • JTAG

■ AI Embedded Module - II

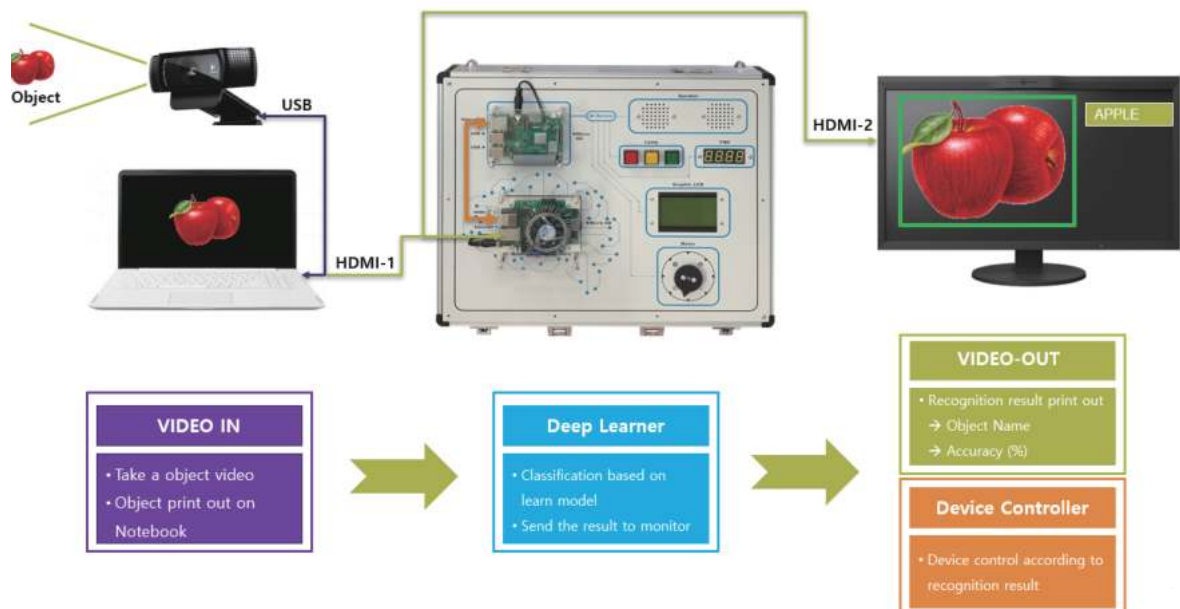
- SoC: Broadcom BCM2837B0 quad-core A54 (ARMv8) 64-bit @ 1.4GHz
- GPU: Broadcom VideoCore IV / Networking: 2.4GHz and 5GHz 802.11b/g/n/ac wireless LAN
- RAM: 512MB LPDDR2 SDRAM / Bluetooth: Bluetooth 4.2, Bluetooth Low Energy (BLE)
- GPIO: 40-pin GPIO header, populated / Storage: microSD
- Ports: HDMI, 3.5 mm analogue audio-video jack, 1x USB 2.0, Camera Serial Interface (CSI), Display Serial Interface (DSI)

■ Device Module

- FND / Graphic LCD / MOTOR / Lamp / BUZZER, Speaker

■ AI Software

- Session Text Fields & New/Open Button / Title Text Fields & Import Button / Device Select
- AI Algorithm Select / AI Learning Status Field / Train Setup & Training Data Build / Feature Extraction
- Training Start (Training Error & Validation Error Status) / Packaging Start & option
- AI Module Connect IP Setup / AI Module Read Capture / AI Classification / AI Object Detection



Training Contents

■ AI Technology summary

- AI Summary / Kind of AI algorithm / AI Cases

■ AI experience

- Trainer configuration
- Setup Training environment
- Classification experience
- Position / Object Detection experience

■ AI practice

- Create Learn data
- Deep learning use Learn data
- Create Learn model
- Comparison the result depend on learn amount / Quality

■ AI application

- Set up AI practice environment
- Interworking with Embedded system using Classification
- Interworking with Embedded system using Position/Object detection

■ Implementation AI Algorithm

- TensorFlow Installation
- TensorFlow basic programming
- TensorFlowneural network implementation
- TensorFlowLearn model and TensorBoard practice