

Water Meter Digit Recognition

ARTIFICIAL INTELLIGENCE

It is crucial to have a mechanism to monitor the natural consumable resources such as electricity, water, and gas usage to have significant savings for your household and avoid larger bills.

Tessolve's Water Meter Digit Recognition (Hereafter called WMDR) monitors the water meter digits and maintains the water consumption values on an hourly, daily, weekly & monthly basis which allows users to efficiently use the water.

Tessolve's WMDR is an AI-based use case to recognize the digits on the water meter through a pre-trained AI model. The predicted digits then send to the dash kit using wireless IoT from Tessolve's WMDR demo kit.

Tessolve's WMDR application shall be extended in the following application use cases such as,

- ⇒ Recognizing Analog meter digits such as Electricity meters, Gas meters, etc.

WMDR demo kit details:

- ⇒ WMDR demo kit is equipped with ultra-low power ARM Cortex-M4 micro controller (STM32WL).
- ⇒ FMPD demo kit is equipped with wireless IoT which allows user can send the data to dash kit using either Azure, AWS, MQTT protocols
- ⇒ Ready to go software package Linux Optimized BSP. Custom applications and software packages can be offered on request.

The demo kit takes the leverage of Tessolve's outstanding expertise in multimedia and embedded control technologies. This expertise enables a market leading system performance

One key value of Tessolve's system solutions is the ready-to-go software package described above.

WMDR demo kit Operation

- ⇒ A custom AI model is trained using the custom dataset to predict the water meter digits
- ⇒ The model then shall be flashed onto the demo kit
- ⇒ Once the demo kit is powered on through a 5V standard power supply, the model has been flashed successfully.
- ⇒ Once the device is powered on, the Camera starts capturing the water meter data. AI model then predicts the corresponding digits and then sends that information to the dashboard using wireless IoT.
- ⇒ Since the demo kit is operating in a low-power mode, only the digits information shall be sent to the very fast dashboard.

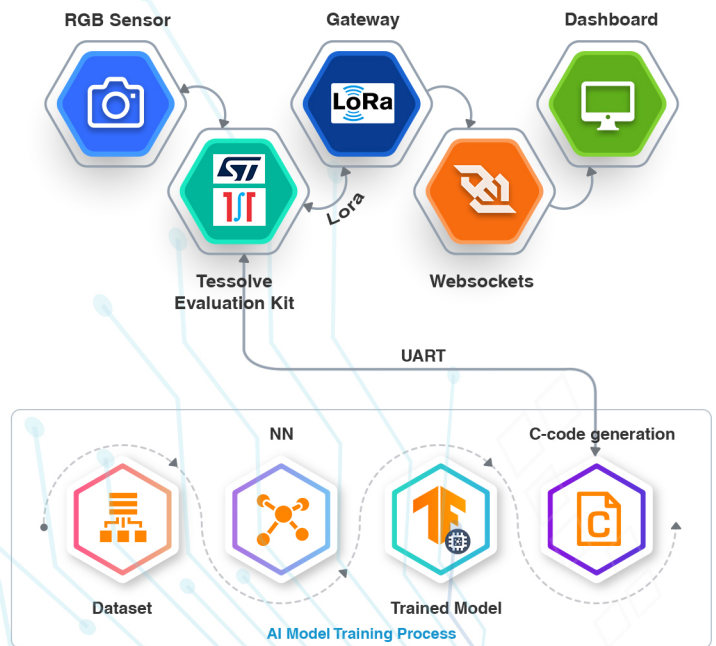
WMDR demo kit snapshot



For demo kit, Linux is the standard offering but versions for RTOS are available on request

Technical Information	Demo kit
Ethernet	x1 10/100/1000 Mbps RJ45 Ethernet Connectors
USB Host	x1 standard USB 2.0 Host Type A connector
Serial	x1 RS232 x1 UART
Power Input	Standard 5V Adaptor Input
Temperature Range	Commercial
RoHS	The hardware is RoHS complaint

WMDR demo kit Architecture diagram



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