Programming Environment of Visual IoT Tools Working on Single-Board Computer (Raspberry Pi) (3)

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The recent emergence of low-cost single board computers such as Raspberry Pi and Arduino, which are used as sensing devices with connectivity to Internet gateways and cloud services, has led to Internet of Things (IoT) architectures in the real world. Visual IoT is one of the classes of IoT that poses crucial end-to end challenges due to the need for sensing and processing of visual data. One of the significant roles of the visual IoT is information extraction from images by using image recognition techniques. In this paper, we present a programming environment of visual IoT on Raspberry Pi, and develop a couple of applications. The first one is an application for real-time information extraction and the second one is an augmented reality (AR)-oriented application. The performance of both applications is examined in outdoor fields using 4G LTE mobile networks to prove that our environment has a potential for many types of visual IoT devices. Our presentation this year focuses on a remote operation function of PTZ-type IP camera (https://www.youtube.com/watch?v=cNCGVany0BQ).

Keywords: IoT, Programming, Visual IoT