Qualcomm Developer Project Trafficsign-Detection-demo

Project Submission

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| **Project Title**\* | Trafficsign-Detection | |
| **Images**  *Upload up to 5 images of your project*  *Please submit/send the original JPEG/PNG files for all images included in the document* | **Qualcomm® CM2290**  IMG_256  [Alt tag: “Trafficsign-Detection-demo using The Qualcomm® CM2290 SOC Open Kit”]  **Type-c usb line**   |  | | --- | | **typc** |   [Alt tag: “using the USB line to develop on Qualcomm® CM2290 SOC Open Kit” ]  **charger**  charger  [Alt tag: “using round-hole charger to power Qualcomm® CM2290 SOC Open Kit”]  **OVA3**  ov  [Alt tag: “Low power image sensor”] | |
| **Description**\*  *High level description of the project* ***(75 words or less)*** | Project in the cm2290 development kit system source code build and run on the CM2290 development board, make full use of the development kit diverse and powerful connection ability and computing ability. HostAPD and UDHCPD tools were used to enable AP WIFI, GStreamer, ZLMediaKit and FFMPEG were used to complete RTSP streaming media function, and TFLITE was used to complete reasoning operation of yolov5 traffic sign recognition model. | |
| **Objective**   * *What inspired you to create this project?* * *What is your desired outcome?* | CM2290 development board can be used for the development of dashcam. Currently, the common dashcam only has the function of recording and saving video. When playing back the recorded video, we expect to be able to jump directly to some traffic sign areas to quickly check whether we violate traffic rules. | |
| **Materials Required / Parts List / Tools** | Part Name | Link to purchase |
| Qualcomm® CM2290 SOC Open Kit | https://github.com/ThunderSoft-XA/CM2290-Trafficsign-Detection |
| USB Line | https://item.jd.com/40759941966.html |
| Charger |  |
| OVA3 camera |  |
| **Source Code / Source Examples / Application Executable**  *Link to open source / shareable code repository* | Description | Link |
| Source Code | https://github.com/ThunderSoft-XA/CM2290-Trafficsign-Detection-demo |
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| **Additional Resources**  *List related links or resources such as websites, videos, presentations, or other materials* | Resource Title | Link or File Name (and provide file) |
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| **Build / Assembly Instructions** | Sample outline:   1. Quickly build AP WIFI through command line tools 2. Using MediaServer tool and start up the push stream serverUsing 3. Run trafficsign\_test to complete camera data acquisition, trafficsign recognition algorithm reasoning, and appsrc push to the local port of CM2290 4. Ffmpeg to obtain the video stream data of the host port and convert it into the format supported by RTSP, and the MediaServer stream server generates the RTSP stream. 5. The mobile connects to CM2290 AP wifi and plays RTSP streams for show depth estimation result by EasyPlayer. | |
|  | Sample outline:   1. How does it work?   CM2290 enables AP wifi and runs the compilation to construct the binary executable file generated by this project. The development board will continuously recognize traffic signs in the images captured by the camera. After the mobile device is connected to WIFI, the results of traffic sign recognition can be viewed in real time on the mobile device through the rtsp stream. | |
| **Usage Instructions** | The Demo running results are as follows：  final result:  fact_img  out_anchor  test-3 | |
| **Contributor(s) Info**  *Feel free to include headshots!* | Name | Title  Company |
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Filters and Tags for QDN projects page

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| **Platform/Hardware** | CSR 101x/102x Bluetooth  DragonBoard 410c  mangOH Red/Yellow  √ Qualcomm CM2290 | MDM920x LTE for IoT  QCA-402x WiFi/BLE/Zigbee  Qualcomm Robotics RBx Dev Kit |
| **Software Tools** | 3D Audio Plugin for Unity  Adreno GPU SDK  Hexagon DSP SDK | √ Neural Processing SDK for AI  　Snapdragon Profiler |
| **Operating System** | Android  √ Linux  ThreadX RTOS | Ubuntu Core  Windows 10 IoT Core |
| **Cloud Services/Platform** | Sierra Wireless AirVantage  Gizwits Cloud Platform  AT&T M2X  IBM Bluemix | IBM Watson IoT  Microsoft Azure IoT  Amazon AWS IoT |
| **Skill Level Required** | Advanced  Beginner  √ Intermediate |  |
| **Areas of Focus** | 3D Printing & Modeling  Alexa Voice Service  √ Artificial Intelligence  Bluetooth  √ Computer Vision  Digital Signage  Education  √ Embedded  Gaming | Healthcare  √ IoT  Robotics  Security  Sensors  Smart Cities  √ Smart Home  Toys |

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