Qualcomm Developer Project LaneDetection-demo

Project Submission

|  |  |  |
| --- | --- | --- |
| **Attribution:** |  | |
| **Email address** | <zhangzz6687@thundersoft.com>  [yafang.tian@thundercomm.com](mailto:yafang.tian@thundercomm.com)  [siyuan.he@thundersoft.com](mailto:siyuan.he@thundersoft.com)  [zhe.yan@thundersoft.com](mailto:zhanglei0706@thundersoft.com) | |
| **Project Title**\* | **LaneDetection** | |
| **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® RB1**  RB2  [Alt tag: “StyleTransfer-demo using The Qualcomm® QRB2210 SOC Open Kit”]  **Type-c usb line**   |  | | --- | | **typc** |   [Alt tag: “using the USB line to develop on Qualcomm® QRB2210 SOC Open Kit” ]  **charger**  charger  [Alt tag: “using round-hole charger to power Qualcomm® QRB2210 SOC Open Kit”] | |
| **Description**\*  *High level description of the project* ***(75 words or less)*** | The project is based on the QRB2210 development kit system source code and runs on the QRB2210 development board, making full use of the diverse and powerful connectivity and computing power of the development kit. Use OpenCV to load mp4 video files, process the video files frame by frame, identify the road lines in each frame of the picture and respond to it, and output the processed video frames as video stream files. | |
| **Objective**   * *What inspired you to create this project?* * *What is your desired outcome?* | It is hoped that by detecting the current driving road traffic line, identifying the road traffic line, processing the road traffic line in the video frame, drawing the current driving road traffic line in real time, and blocking other interference information in the video frame, the processing result can be applied to the traffic scene to accurately output the current vehicle driving route. | |
| **Materials Required / Parts List / Tools** | Part Name | Link to purchase |
| Qualcomm® QRB2210 SOC Open Kit | https://www.thundercomm.com/zh/product/qualcomm-robotics-rb1-platform/ |
| USB Line | https://item.jd.com/40759941966.html |
| Charger | https://www.thundercomm.com/zh/product/qualcomm-robotics-rb1-platform/ |
| Cameramodule | https://www.thundercomm.com/zh/product/qualcomm-robotics-rb1-platform/ |
| **Source Code / Source Examples / Application Executable**  *Link to open source / shareable code repository* | Description | Link |
| Source Code | https://github.com/ThunderSoft-XA/RB1-LaneDetection |
|  |  |
|  |  |
|  |  |
| **Additional Resources**  *List related links or resources such as websites, videos, presentations, or other materials* | Resource Title | Link or File Name (and provide file) |
|  |  |
|  |  |
|  |  |
|  |  |

|  |  |  |
| --- | --- | --- |
| **Build / Assembly Instructions** | Sample outline:  (1) After configuring the RB1 dedicated SDK, create a cross-compilation environment;  (2) In the cross-compilation environment, directly generate products through Cmake compilation. | |
|  | Sample outline:   1. How does it work? 2. Prepare the video file of the first-person perspective when the vehicle is driving on the road traffic line, and put it in the directory of the same level of the lane\_detection executable program; 3. To execute lane\_detection executable program, you need to bring a parameter, which is the video file that needs to be processed. | |
| **Usage Instructions** | The Demo running results are as follows：  final result:  original_video result_video | |
| **Contributor(s) Info**  *Feel free to include headshots!* | Name | Title  Company |
|  |  |
|  |  |
|  |  |

––– Continued on next page –––

Filters and Tags for QDN projects page

|  |  |  |
| --- | --- | --- |
| **Platform/Hardware** | CSR 101x/102x Bluetooth  DragonBoard 410c  mangOH Red/Yellow  √ Qualcomm QRB2210 | 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 |

*By submitting your content (“Submission”), you are granting Qualcomm a royalty-free, perpetual, non-exclusive, unrestricted, worldwide license to: (a) post, use, copy, sublicense, adapt, transmit, publicly perform or display any such Submission, (b) use, reproduce, modify, adapt, publish, translate, create derivative works from, distribute, perform, play, host, communicate, make available and publish your Submission without restriction and (c) sublicense to third parties the unrestricted right to exercise any of the foregoing rights granted with respect to the Submission. The foregoing grants shall include the right to exploit any ideas, concepts, intellectual property, or proprietary rights in such Submission, including but not limited to rights under copyright, trademark, servicemark or patent laws under any relevant jurisdiction without Qualcomm owing any monies to you whatsoever. You represent and warrant that you own all right, title and interest in and to the Submission, or you have been granted sufficient rights in and to the Submission allowing the foregoing use of such Submission.*