Qualcomm Developer Project AIMET-MobileNetV2-demo

Project Submission

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| **Attribution:** |  | |
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| **Project Title**\* | AIMET-MobileNetV2 | |
| **Images**  *Upload up to 5 images of your project*  *Please submit/send the original JPEG/PNG files for all images included in the document* | AIMET Workflow introduction  https://github.com/quic/aimet/raw/develop/Docs/images/how-it-works.png | |
| **Description**\*  *High level description of the project* ***(75 words or less)*** | AIMET quantitative compression tool was used to compress the MobileNetV2 model. Imagenet data set was used to evaluate the models at all stages of the project. | |
| **Objective**   * *What inspired you to create this project?* * *What is your desired outcome?* | I have tried deploying my own deep learning model on embedded devices, but in the end its performance is not good, even with a large delay or a large memory footprint, so I am eager to solve this problem. On the Qualcomm Developer Network, I found AIMET to quantify and compress the model. | |
| **Materials Required / Parts List / Tools** | Part Name | Link to purchase |
| pytorch-mobilenet-v2 | https://github.com/tonylins/pytorch-mobilenet-v2 |
| model | https://www.dropbox.com/s/47tyzpofuuyyv1b/mobilenetv2\_1.0-f2a8633.pth.tar?dl=1 |
| AIMET | https://github.com/quic/aimet/releases/tag/1.21.0 |
| ImageNet | https://image-net.org/ |
| **Source Code / Source Examples / Application Executable**  *Link to open source / shareable code repository* | Description | Link |
| Source Code | [https://github.com/ThunderSoft-XA](https://github.com/ThunderSoft-XA/demo-Smart-Motion-detector)/AIMET-MobileNetV2-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. Install aimet in conda 2. Prepare the data set and torch mobilNetV2 3. Compression mobilNetV2 pretrained file | |
|  | Sample outline:  Execute command: python main.py --dataset\_dir /home/HDD/dataset/ImageNet2012DataSets | |
| **Usage Instructions** | The Demo running results are as follows：  final result: | |
| **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 | √ AIMET  　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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