Qualcomm Developer Project AIMET-yolov3-demo

Project Submission

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| **Project Title**\* | **AIMET-yolov3-demo** | |
| **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)*** | Explained in detail the AIMET installation method that is not recommended by the official, using Conda installation; and based on this environment to execute a relatively simple AIMET example. Select torch yolov3 to complete the quantification of the model. | |
| **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-YOLOv3 | https://github.com/eriklindernoren/PyTorch-YOLOv3 |
| AIMET Packages | https://github.com/quic/aimet/releases/tag/1.16.2.py37 |
| COCO2014 dataset | http://images.cocodataset.org/annotations/annotations\_trainval2014.zip |
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| **Source Code / Source Examples / Application Executable**  *Link to open source / shareable code repository* | Description | Link |
| [Source Examples](https://github.com/canyudeguang/Home_Automation) | [https://github.com/ThunderSoft-XA](https://github.com/ThunderSoft-XA/demo-Smart-Motion-detector)/AIMET-yolov3-demo.git |
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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 yolov3 3. Quantizate yolov3 structure | |
| **Usage Instructions** | Execute command:  $ python yolov3\_quant.py  Result of AIMET (BNF-CLE-BC)for openpose:  BNF-CLE-BC | |
| **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 | ☐ MDM920x LTE for IoT  ☐ QCA-402x WiFi/BLE/Zigbee |
| **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  ☐ Google Colab |
| **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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