Qualcomm Developer Project Blurred Image Clearness Processing Demo

Project Submission

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| **Attribution:** | Tianye Fan | |
| **Email address** | <zhangzz6687@thundersoft.com>  [siyuan.he@thundersoft.com](mailto:hongliang.liu@thundersoft.com)  [tianye.fan@thundersoft.com](mailto:tianye.fan@thundersoft.com) | |
| **Project Title**\* | **Blurred Image Clearness Processing** | |
| **Images**  *Upload up to 5 images of your project*  *Please submit/send the original JPEG/PNG files for all images included in the document* | **C6490P DK**    [Alt tag: “Blurred Image Clearness Processing using the C6490P Develop Kit”]  **Type-c usb line**   |  | | --- | | **typc** |   [Alt tag: “using the USB line to develop on C6490P Develop Kit” ]  **Charger**  charger  [Alt tag: “using round-hole charger to power C6490P Develop Kit”] | |
| **Description**\*  *High level description of the project* ***(75 words or less)*** | This is a demo of single image deblurring with deep learning on C6590P DK that processes the blurry image to make it Clearness by loading & running DeepDeblur model on dsp. | |
| **Objective**   * *What inspired you to create this project?* * *What is your desired outcome?* | Deblurring is widely used for image processing and restoration. It’s often operates as a component of a camera. The integration of the DeepDeblur model on edge devices can optimize the photo experience and improve the quality of photos | |
| **Materials Required / Parts List / Tools** | Part Name | Link to purchase |
| C6490P DK | https://www.thundercomm.com/product/c6490p-development-kit/ |
| USB Line | https://item.jd.com/40759941966.html |
| Charger | https://www.thundercomm.com/product/c6490p-development-kit/ |
| **Source Code / Source Examples / Application Executable**  *Link to open source / shareable code repository* | Description | Link |
| Source Code | https://github.com/ThunderSoft-XA/C6490-Blurred-Image-Clearness-Processing |
| **Additional Resources**  *List related links or resources such as websites, videos, presentations, or other materials* | Resource Title | Link or File Name (and provide file) |
| Video | https://github.com/ThunderSoft-XA/C6490-Blurred-Image-Clearness-Processing/doc/usage.mp4 |
| DeepDeblur original model | https://github.com/SeungjunNah/DeepDeblur-PyTorch |
| DeepDeblur modified model | https://github.com/ThunderSoft-XA/C6490-Blurred-Image-Clearness-Processing/deepdeblur-cpp/model |
| Model porting tutorial | https://github.com/ThunderSoft-XA/C6490-Blurred-Image-Clearness-Processing/doc/Deepdeblur-on-6490.pdf |
| **Build / Assembly Instructions** | 1. mkdir build & cd build 2. cmake ../ 3. make -j6 4. ./main | |
| **Usage Instructions** | The Demo running results are as follows：  final result: | |
| **Contributor(s) Info**  *Feel free to include headshots!* | Name | Title  Company |
| <zhangzz6687@thundersoft.com> | Thundersoft |
| [siyuan.he@thundersoft.com](mailto:hongliang.liu@thundersoft.com) | Thundersoft |
| [tianye.fan@thundersoft.com](mailto:tianye.fan@thundersoft.com) | Thundersoft |

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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 C6490P | 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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