Qualcomm Developer Project Style Transfer Demo

Project Submission

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| **Project Title**\* | **Style Transfer** | |
| **Images**  *Upload up to 5 images of your project*  *Please submit/send the original JPEG/PNG files for all images included in the document* | **Thundercomm TurboX C8550 Development Kit**  IMG_256  [Alt tag: “Transfer Demo-demo using The Qualcomm® C8550 SOC Open Kit”]  **Type-c usb line**   |  | | --- | | **typc** |   [Alt tag: “using the USB line to develop on Qualcomm® C8550 SOC Open Kit” ]    **Charger**  charger  [Alt tag: “using round-hole charger to power Qualcomm® C8550 SOC Open Kit”] | |
| **Description**\*  *High level description of the project* ***(75 words or less)*** | This project builds and runs the source code of the C8550 development toolkit system on the C8550 development board, fully utilizing the diversity of development toolkits and their powerful connectivity and computing capabilities. Style Transfer allows you to process the images you need and render them to match the selected style. | |
| **Objective**   * *What inspired you to create this project?* * *What is your desired outcome?* | Art style transfer is an optimization technique used to obtain two images: a content image and a style reference image (such as a famous painter's artwork) and mix them together so that the output image looks like a content image, but is "drawn" in the style reference image. | |
| **Materials Required / Parts List / Tools** | Part Name | Link to purchase |
| Thundercomm TurboX C8550 Development Kit | https://www.thundercomm.com/product/c8550-development-kit/#specifications |
| USB Line | https://item.jd.com/40759941966.html |
| Charger | https://gstreamer.freedesktop.org/ |
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| **Source Code / Source Examples / Application Executable**  *Link to open source / shareable code repository* | Description | Link |
| Source Code | https://github.com/ThunderSoft-XA/C8550-Style-Transfer-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. Select image 2. Select the image style that needs to be migrated 3. Choose the core CPU or GPU to run on 4. Click Run to convert the image to a style consistent with the selected style | |
|  | Sample outline:   1. How does it work?   The art style transfer model consists of two sub models:  Style prediction model: Based on MobilenetV2 neural network, the input style image is transformed into a 100 dimensional style bottleneck vector.  Style transition model: A neural network that applies style bottleneck vectors to content images and creates stylized images.  If your application only needs to support a fixed set of style images, you can calculate their style bottleneck vectors in advance and exclude style prediction models from the application's binary files. | |
| **Usage Instructions** | The Demo running results are as follows：  final result:  01020403 | |
| **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 C8550 | 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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