

APPENDIX 1: Source Code

All source code is attached in the Shimamoto_Ghosh_Project.zip folder. All source code is in MATLAB. Since some of the code is still under development and will be the subject of future work, we prefer not to make it publicly available at this stage.

All test images are in the 8mc folder. We also extensively used ISET images and scenes.

README

To run our scripts in MATLAB, please do as follows:

1) Launch ISET v 2.0

2) Open Main.m

Main.m provides options to choose scenes and creates the optical image using typical optics and user-specified optical low-pass filter (diffuser). A sensor image is then created with user-specified CFAs. The demosaiced image is then computed from the sensor image

3) nhkRender.m and nhkDemosaic.m are used to call the custom demosaicing algorithms.

4) Custom_NHK_Sensor.m was used to create the custom NHK sensor, generate the raw sensor data from a typical NHK image (in 8mc folder), and apply custom demosaicing algorithms and other image processing routines to the raw sensor data