I created several functions in the cpp file:

getColorFromBitmap, setColorToBitmap and generateFilterImageByRow: you can understand the functions directly through the comments along with the codes.

Also, I used std::thread to realize the multithread, and the array creation of the std::thread requires constant variables, thus I set a const size\_t max\_num\_threads for the threads.

It supports all texture sizes and resolutions, and I tried to write the code as specific as possible, feel free to contact me with any questions.