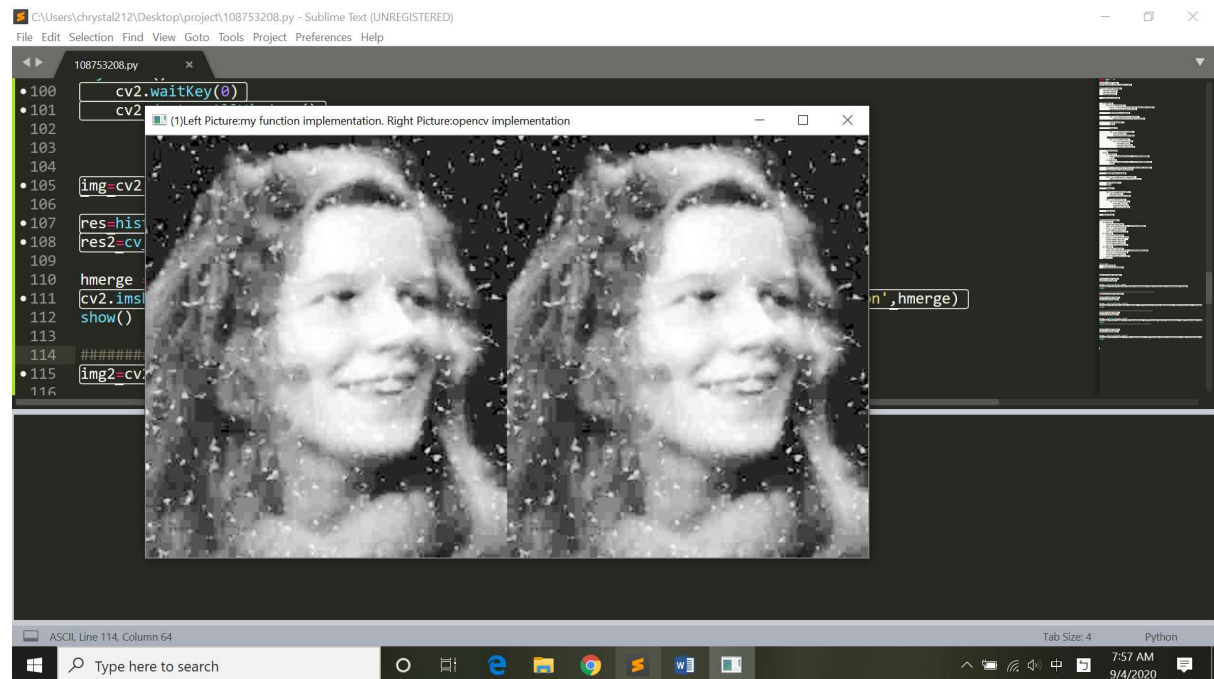


Spring 2020 Computer Vision Mini Project #3: Image Enhancement using Histogram Equalization

系級:資科所碩一 學號:108753208 姓名:葉冠宏

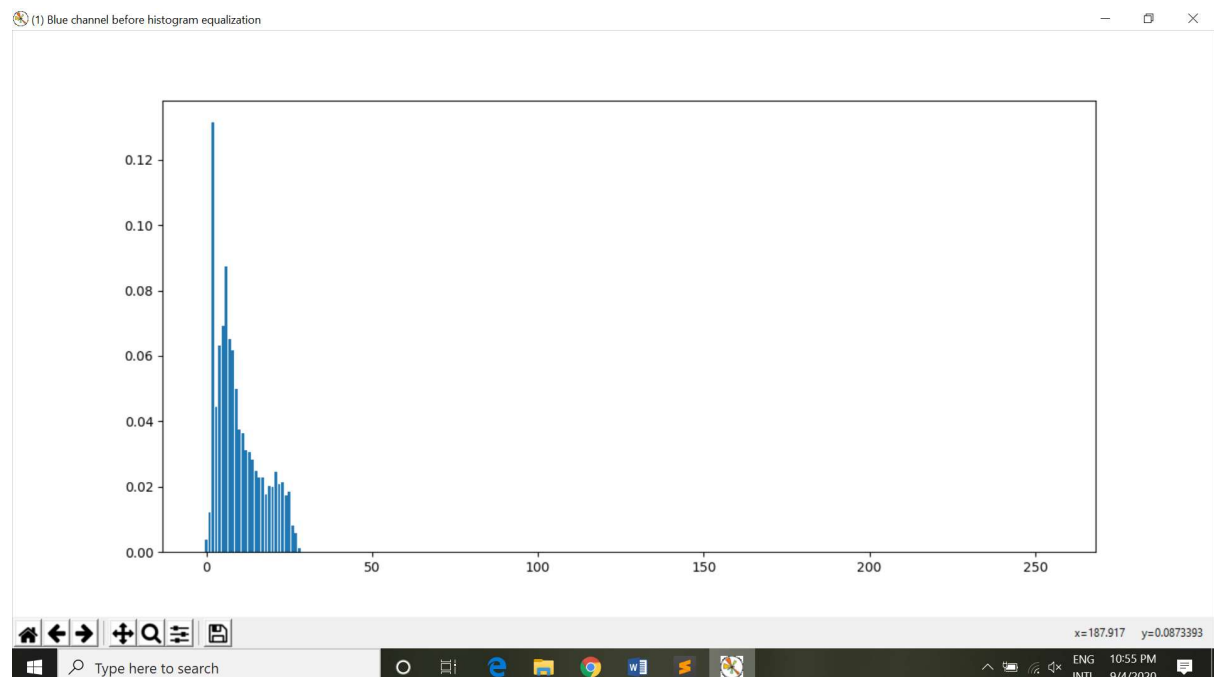
Use the algorithms given in p.126 and of the textbook to implement histogram equalization function.

(1) Apply histogram equalization to mp2.jpg. Compare your result with the OpenCV equalizeHist() implementation.

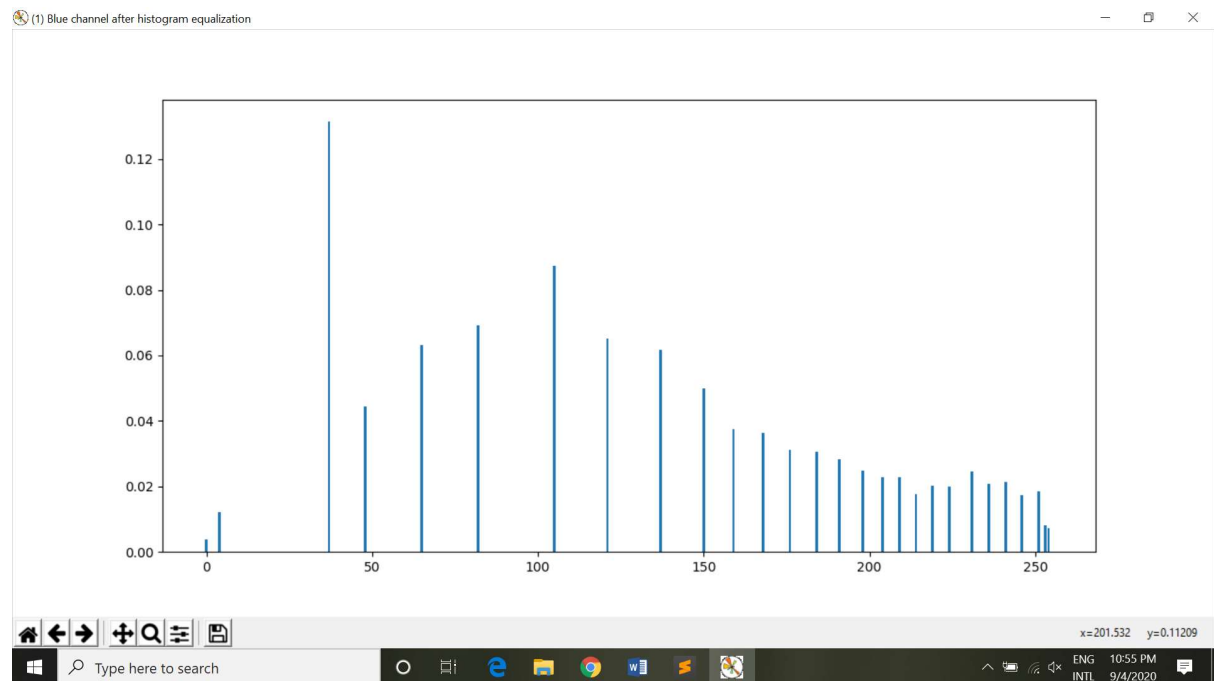


Left Picture:my function implementation. Right Picture:opencv implementation

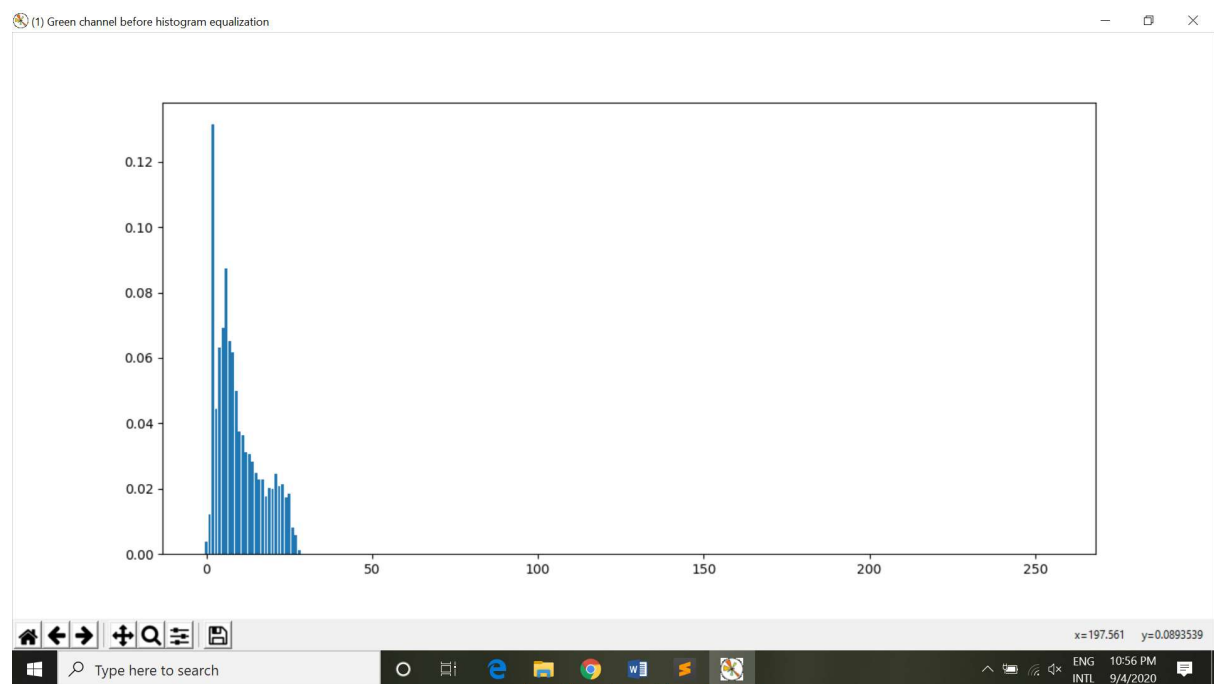
我的 function 和 open cv 的 function 都使圖片鮮明化



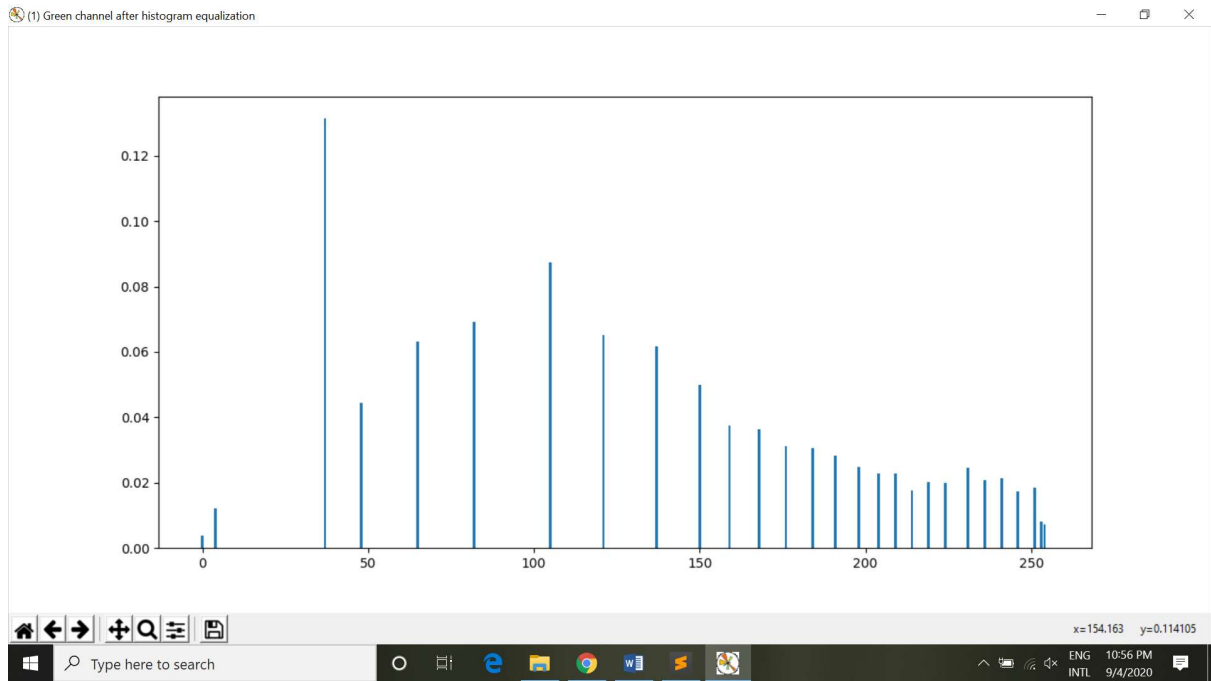
Blue channel before histogram equalization



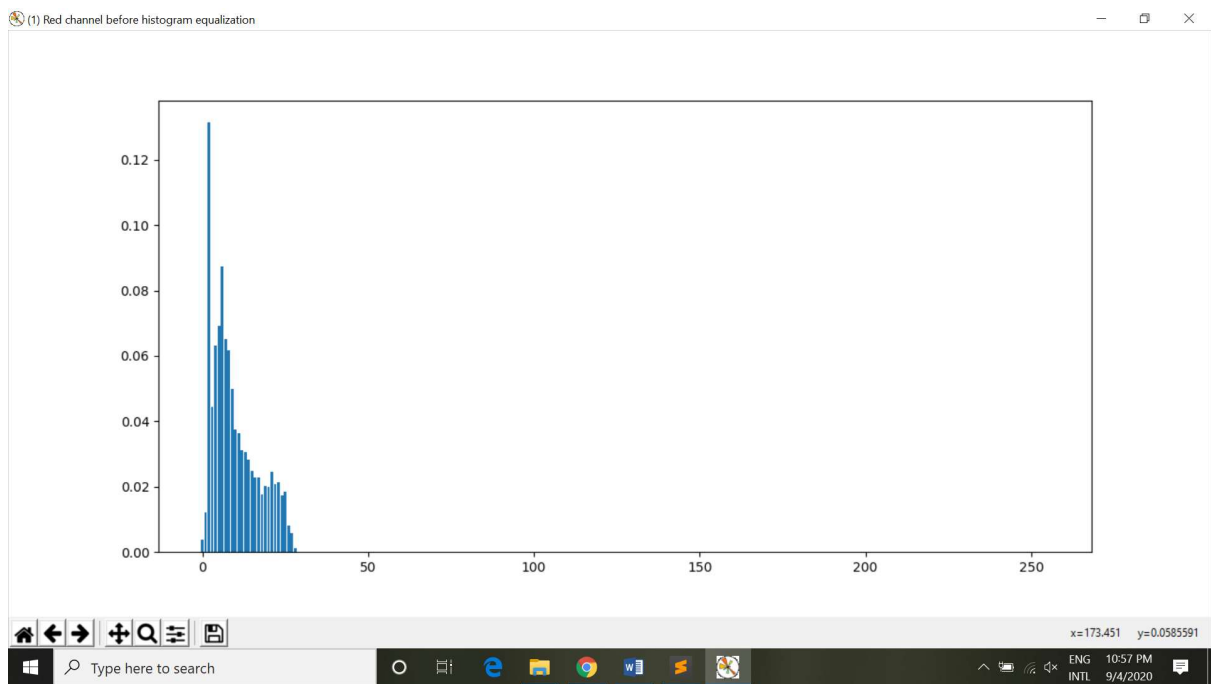
Blue channel after histogram equalization



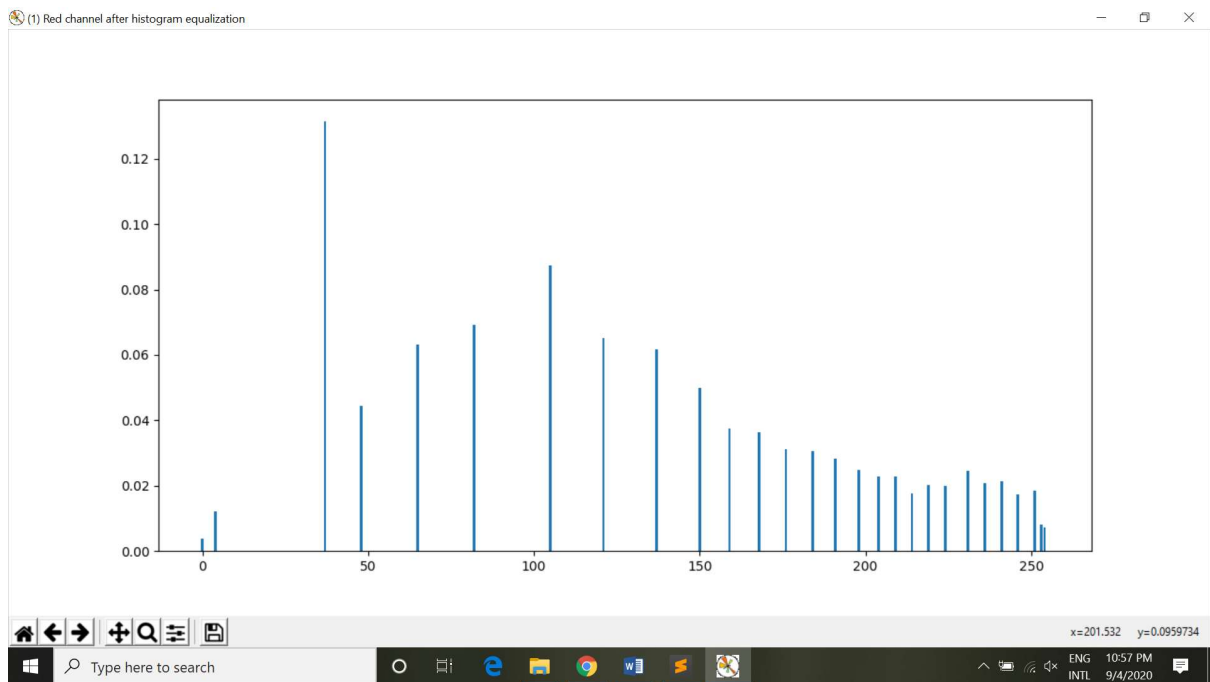
Green channel before histogram equalization



Green channel after histogram equalization



Red channel before histogram equalization

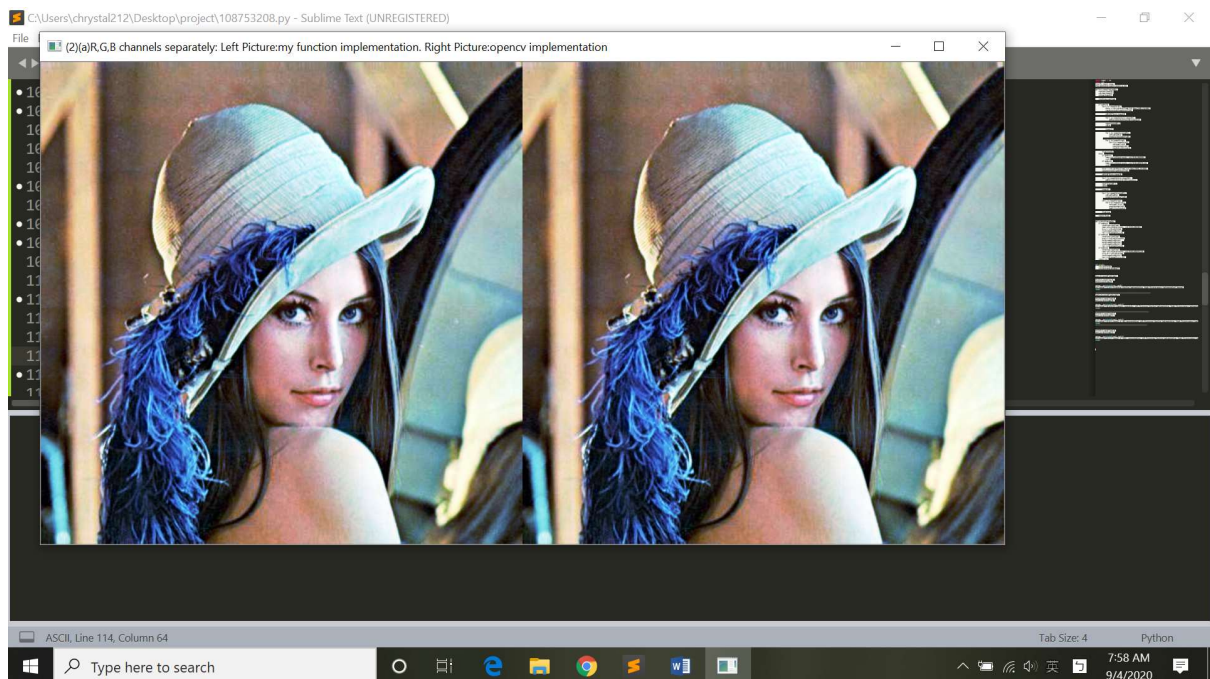


Red channel after histogram equalization

以上三個 channel 的確有達到平滑化

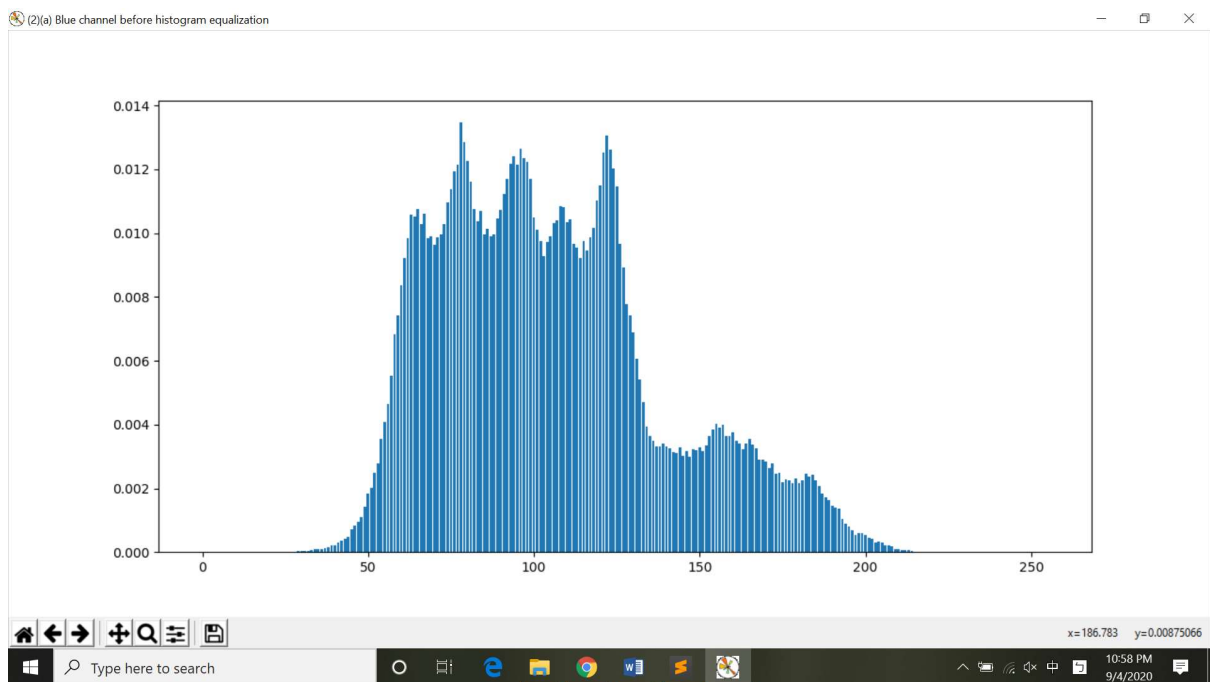
(2) Process mp2a.jpg by applying histogram equalization to (a) R,G,B channels separately (b) V channel of HSV representation (c) Y channel of YCbCr representation. (Reference: cvtColor) Discuss your results. Also compare your results with the OpenCV implementation.

(a) R,G,B channels separately

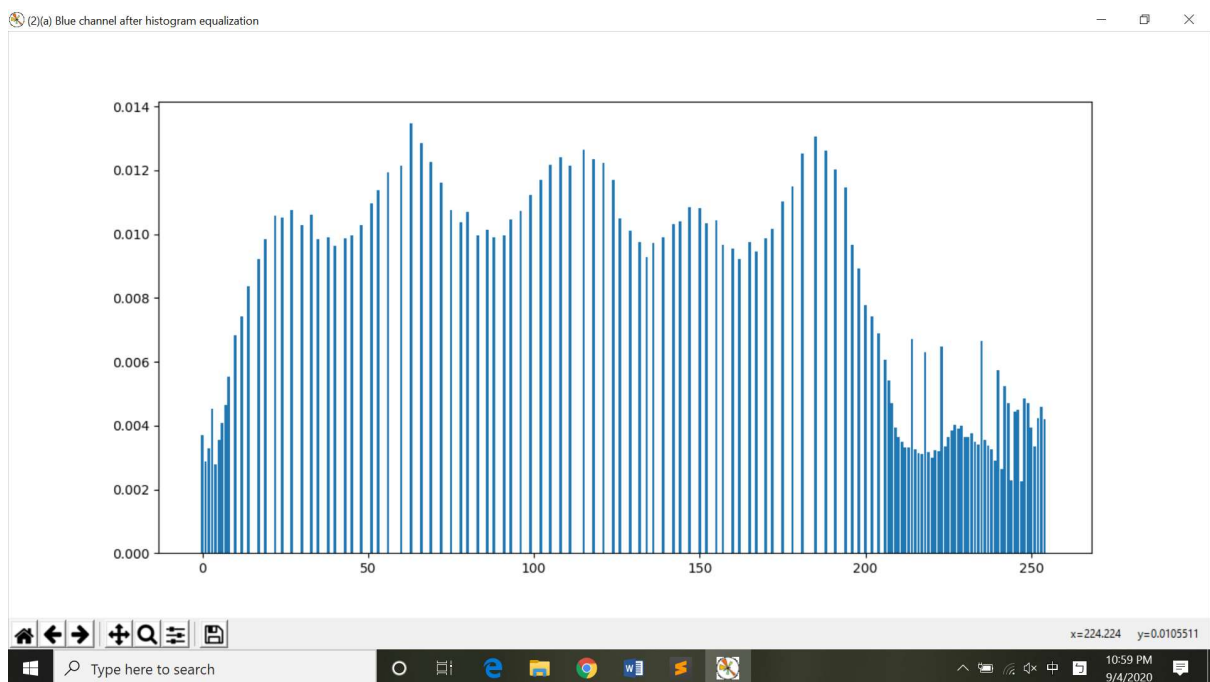


Left Picture:my function implementation. Right Picture:opencv implementation

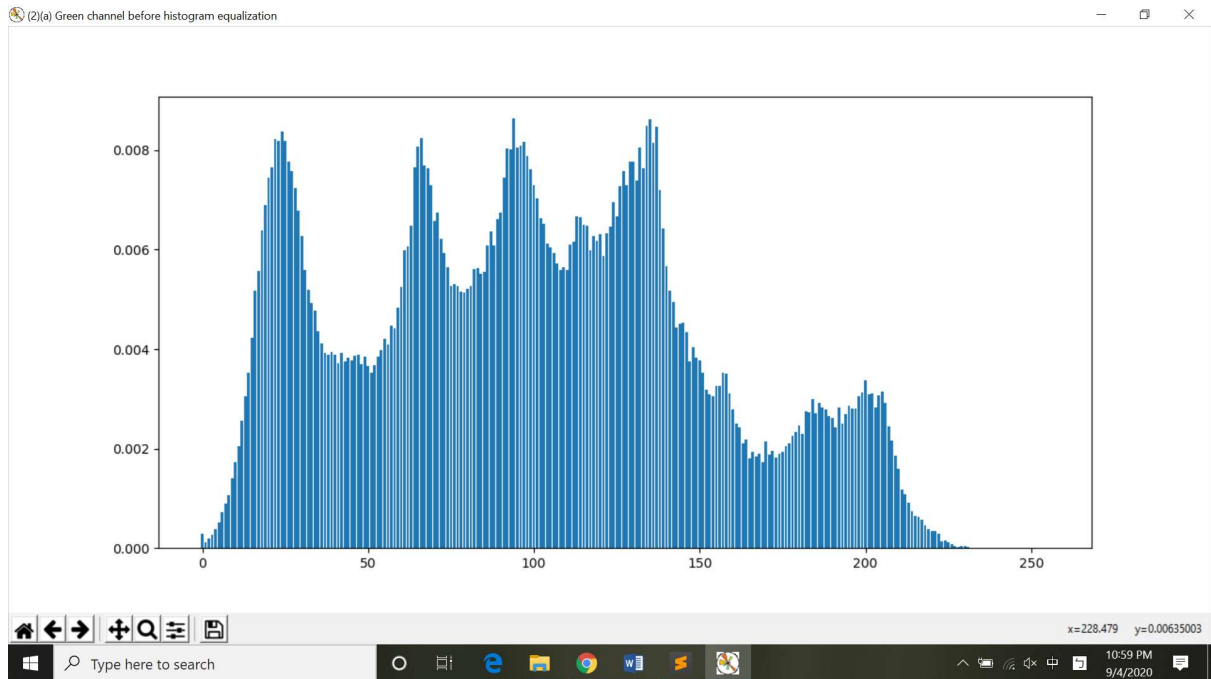
我的 function 和 open cv 的 function 都使圖片鮮明化



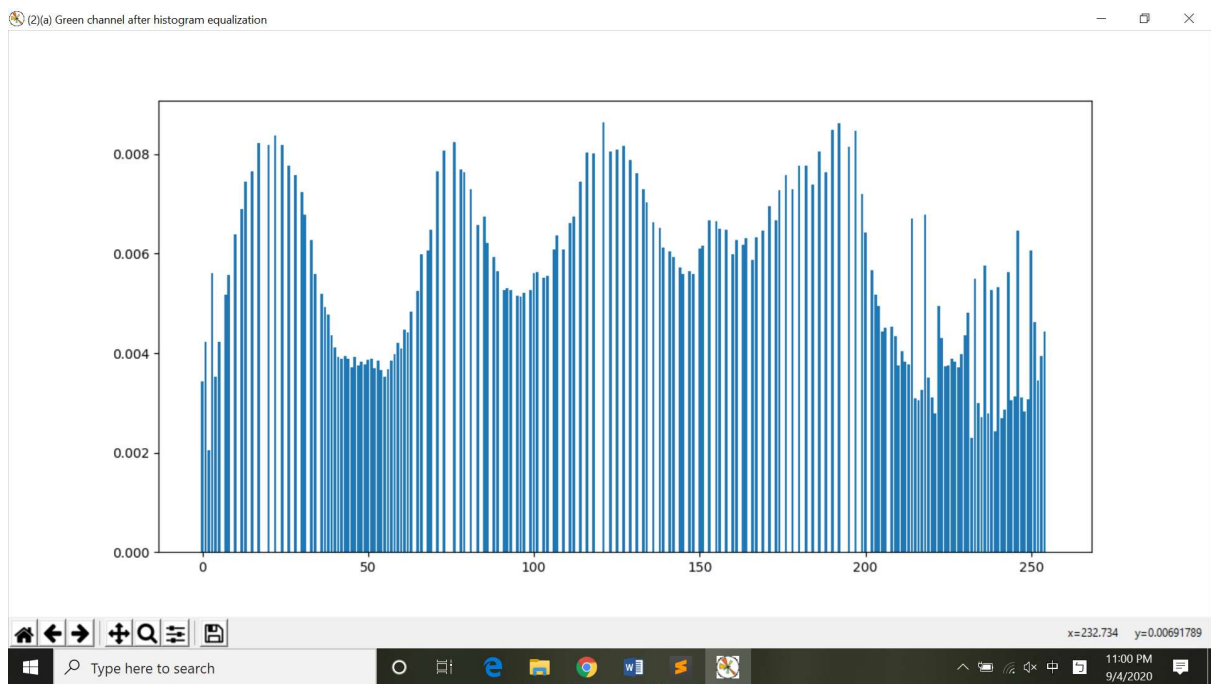
Blue channel before histogram equalization



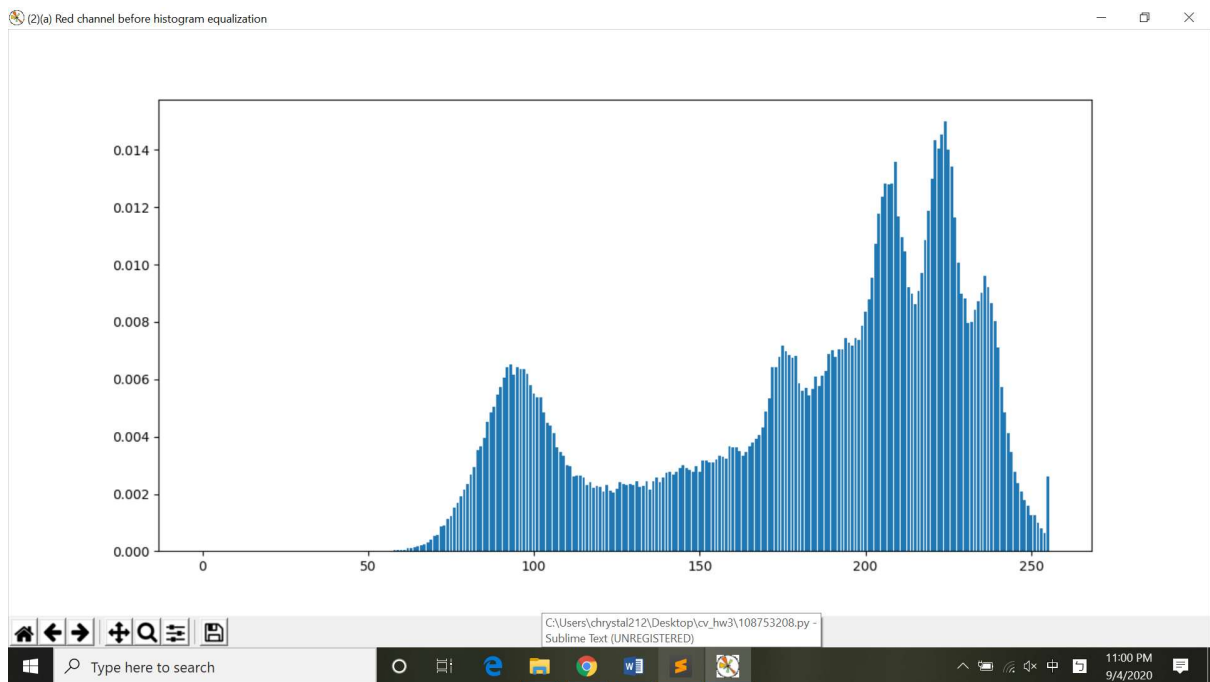
Blue channel after histogram equalization



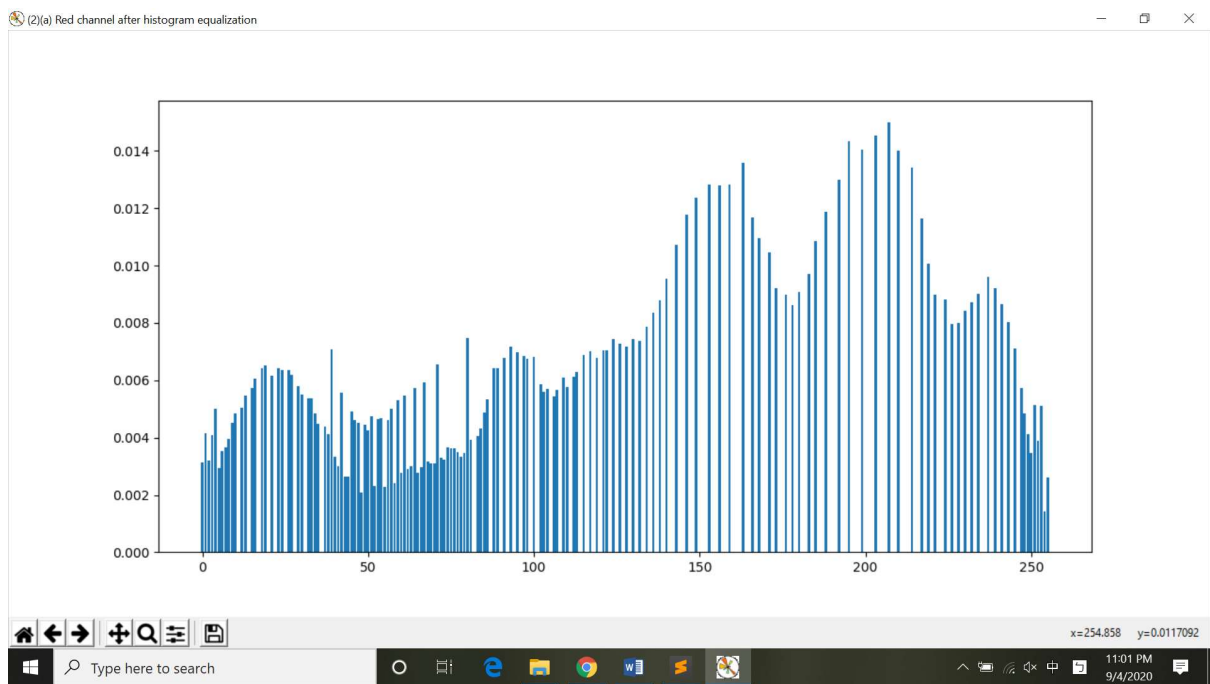
Green channel before histogram equalization



Green channel after histogram equalization



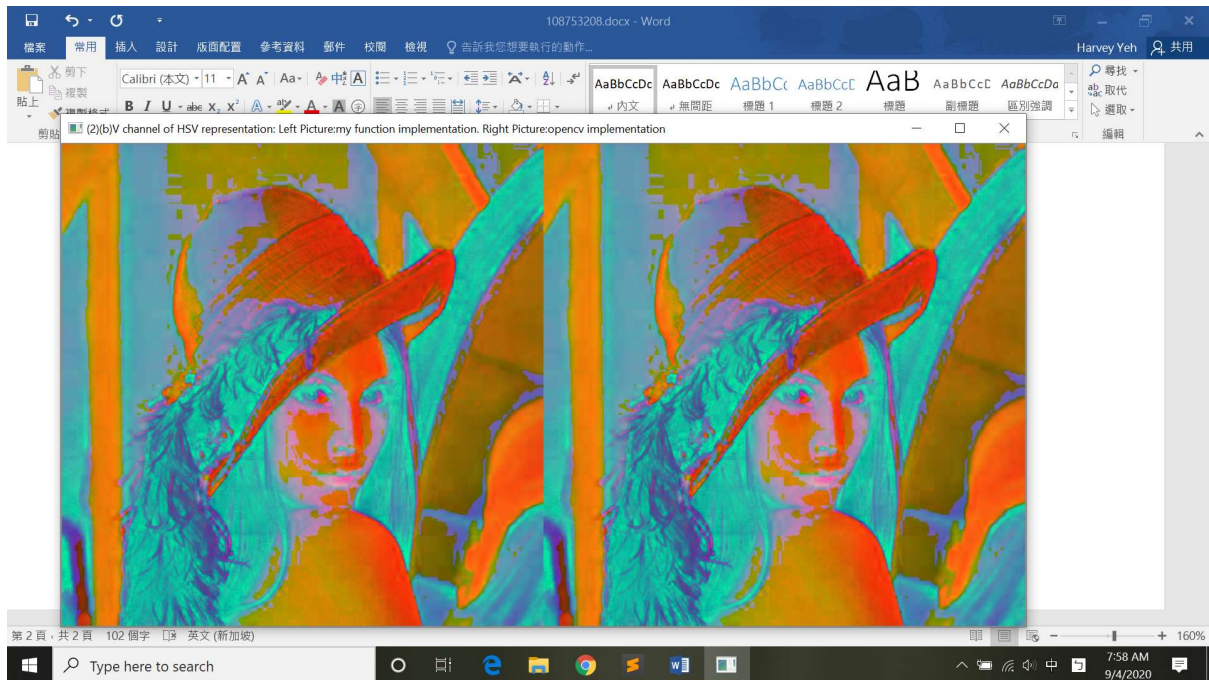
Red channel before histogram equalization



Red channel after histogram equalization

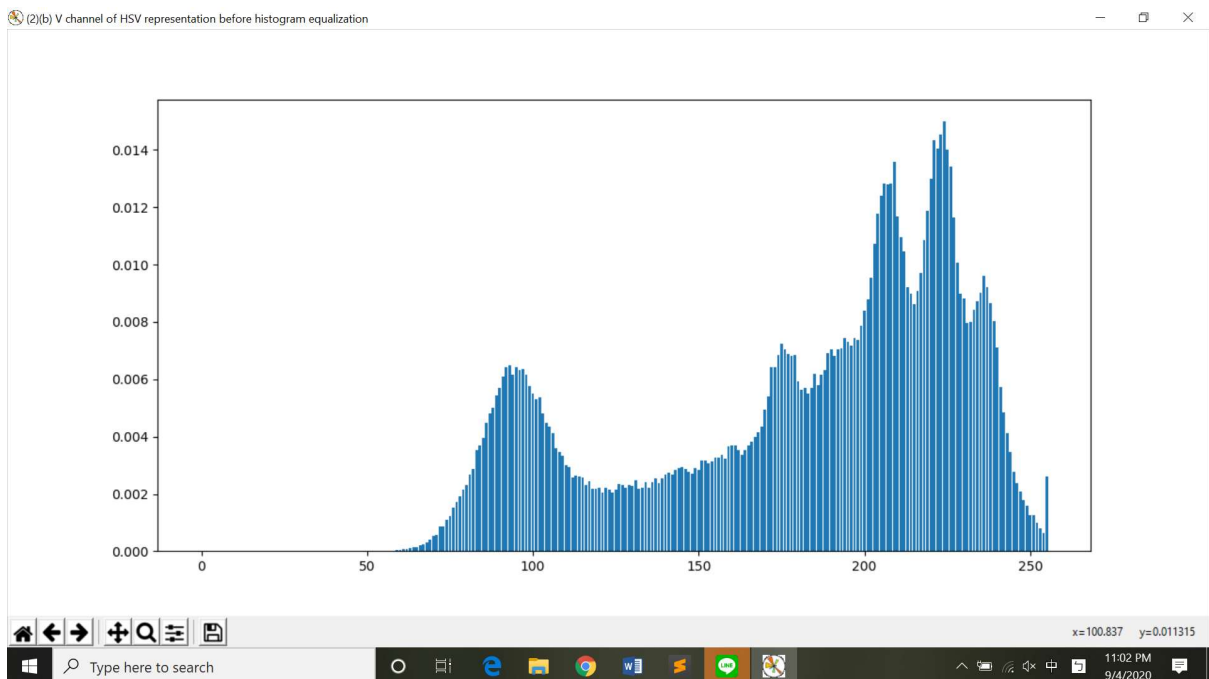
以上三個 channel 的確有達到平滑化

(b) V channel of HSV representation

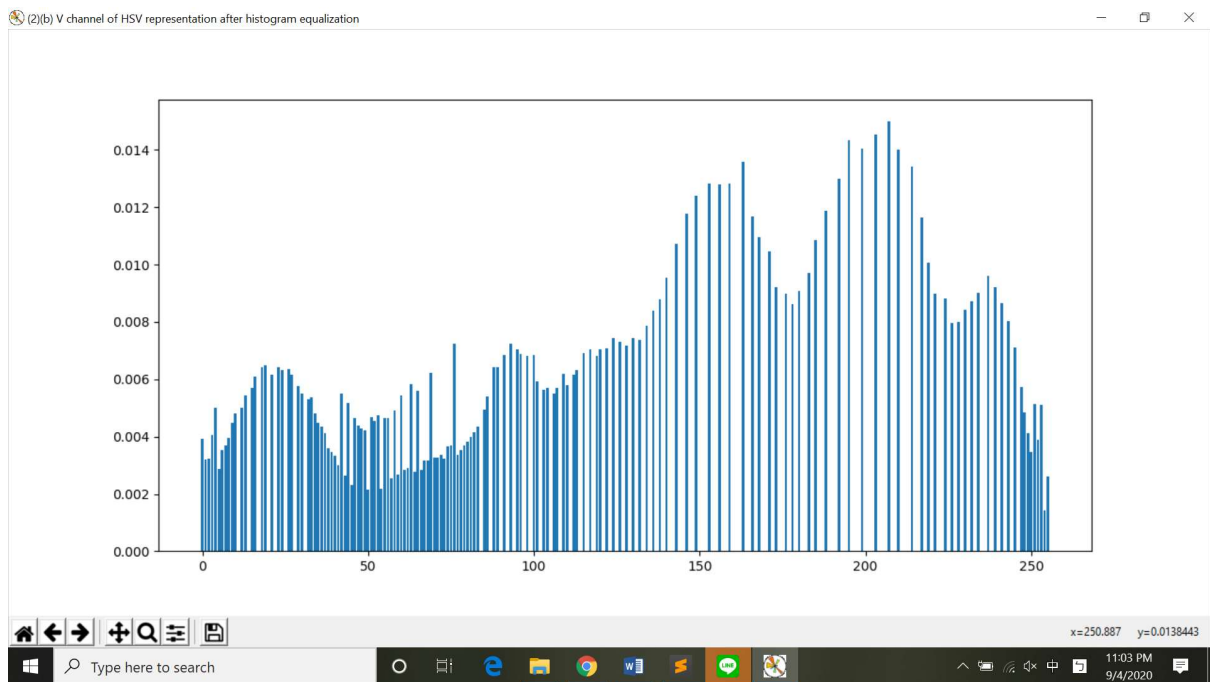


Left Picture:my function implementation. Right Picture:opencv implementation

我的 function 和 open cv 的 function 都使圖片感覺褪色



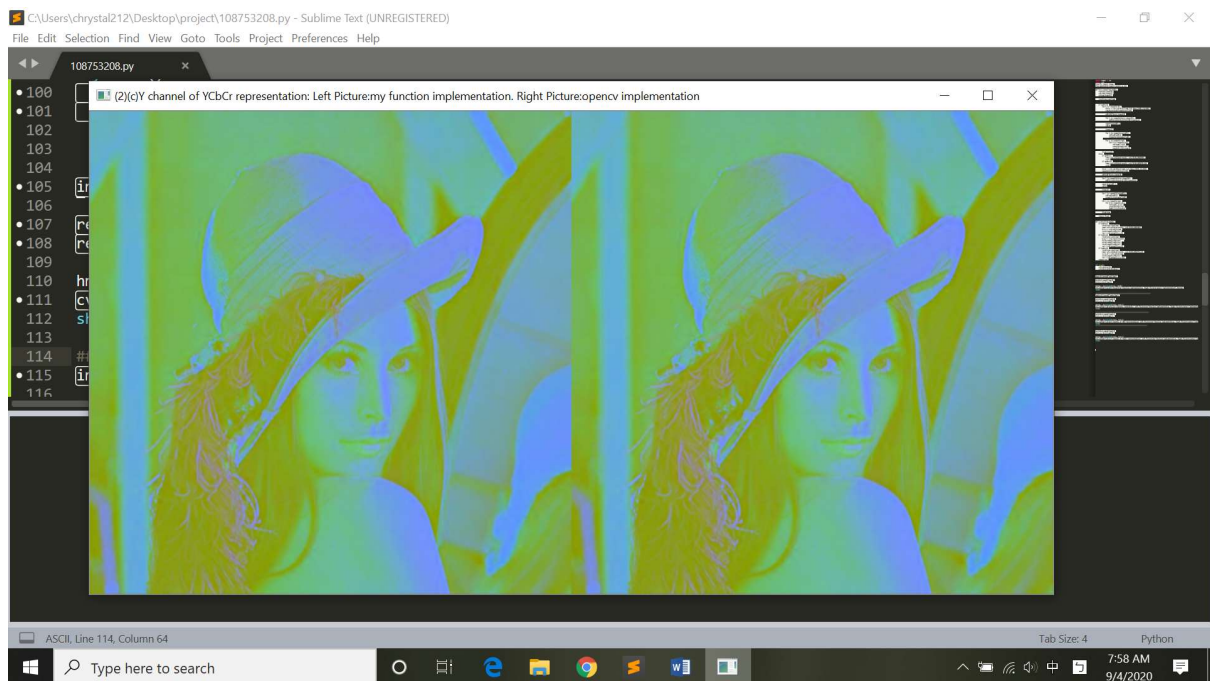
V channel of HSV representation before histogram equalization



V channel of HSV representation after histogram equalization

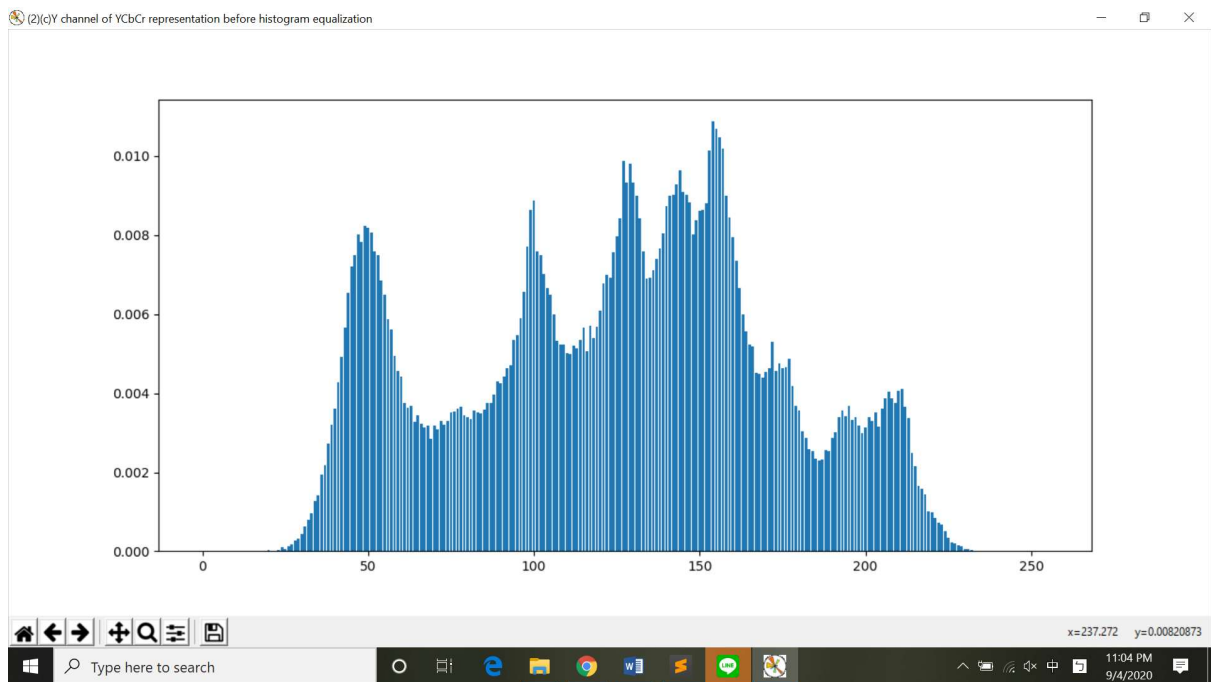
的確有達到平滑化

(c) Y channel of YCbCr representation

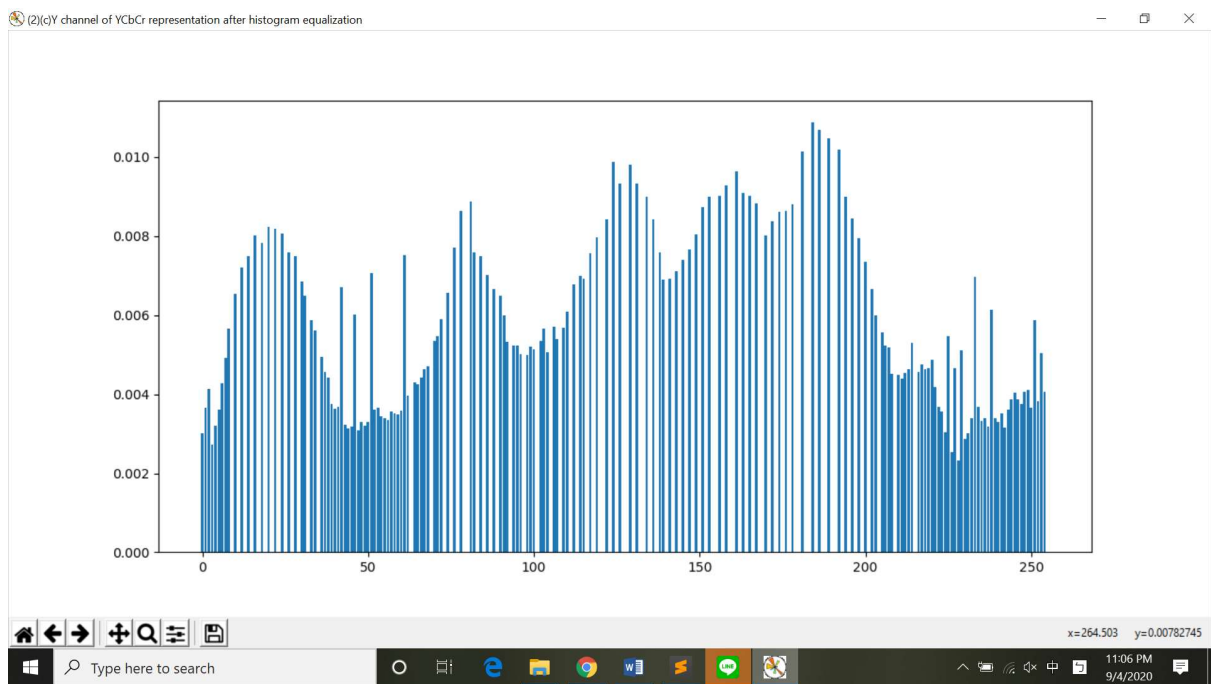


Left Picture:my function implementation. Right Picture:opencv implementation

我的 function 和 open cv 的 function 都使圖片感覺褪色



Y channel of YCbCr representation before histogram equalization



Y channel of YCbCr representation after histogram equalization

的確有達到平滑化