

Enhancing Image Contrast Tool

Project Description:

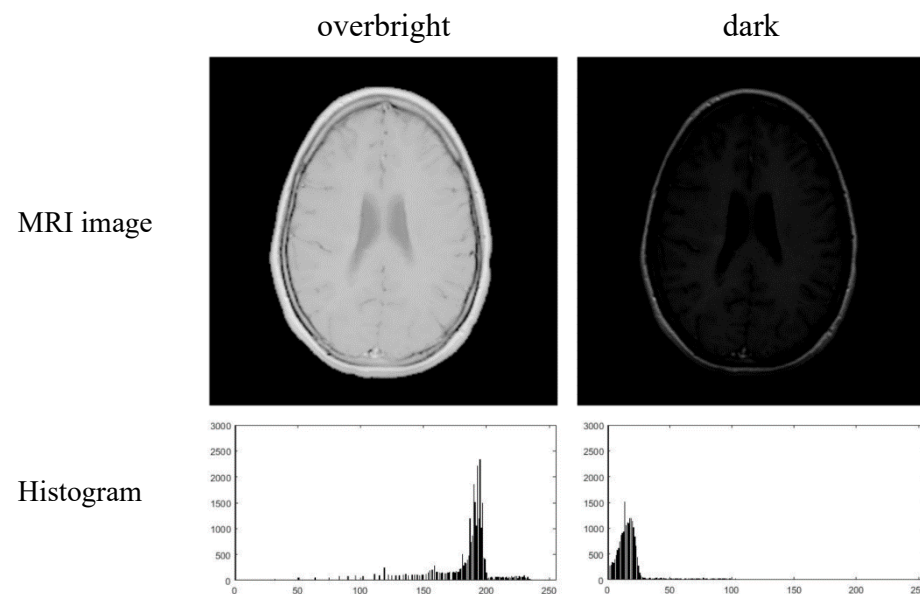
I developed an image processing tool to analyze and normalize distribution of pixel values of overbright or dark medical images, and make the images clear for diagnosis. The medical images analyzed in this project are magnetic resonance imaging (MRI) of brains.

Method:

Since the cause of overbright and dark images is narrow distribution of the pixel values, methods for increasing the intervals between the pixel values were designed. For the overbright images, the cube of the pixel values was divided by a constant that made the highest pixel value under 255. For the dark images, the fifth square root of the pixel values was multiplied by a constant that made the highest pixel value become 255.

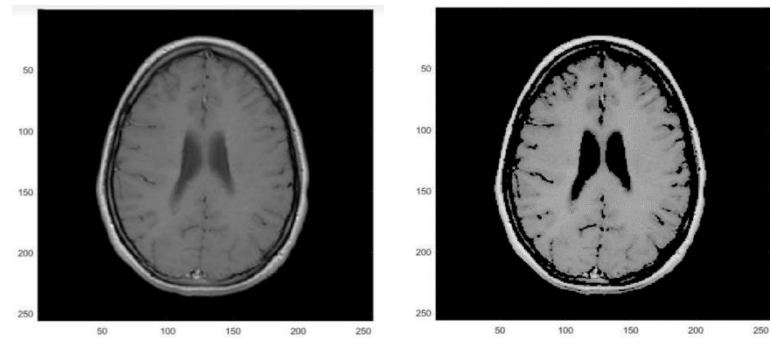
Demo:

An overbright MRI image and a dark MRI image of brains were utilized to demonstrate the function of this tool.



Result:

MRI image



Histogram

