

Software Requirements Specification (SRS) Document

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Brief problem statement

Photographers spend a lot of time selecting and editing their photos. They have to waste a lot of memory usage especially for duplicate photos with bad brightness, sharpness, and saturation. This project aims to automate this process in order to reduce the time and effort spent on it.

The Goal of this Project is to build and train a ML model that takes input as images and outputs enhanced images with good brightness, sharpness, saturation, colours etc.

System requirements

The neural network models will be written in python using pytorch, torchvision and openCV for image manipulation. They will be trained on GPUs(1080ti, 2060ti, 3060ti) provided by the client.

These models will be packaged as python modules.

Users profile

The models will be packaged as python modules, which will be used by the client in a larger software system.

The primary target users of this larger system are professional photographers. This is why the training set includes professionally captured and edited photographs. These users are not expected to be familiar with the technologies used, or have significant technical skills. However, building a user-friendly experience is not in the scope of the project.

The python modules that we will build will be used by the developers at JollyAI who are technically skilled.

Feature requirements (described using use cases)

No.	User Case Name	Description	Release
1.	Image Enhancement	The image will be put through the selected NN model (CURL, CWCC, EnlightenGAN or MIRNet) An enhanced image is returned.	R2

Use case description

Use Case Number:	UC-01
Use Case Name:	Image Enhancement
Overview:	CURL,CWCC,EnlightenGAN,MIRNet are models we will reproduce and train here. The model which performs the best will be selected by the client.
Actors:	Normal User, with a little bit idea of what each AI model does
Pre condition:	No pre-condition
Flow:	Main Flow: The image is put through the selected model.
Post Condition:	An enhanced image with adjusted brightness, saturation, sharpness, etc. is returned.