

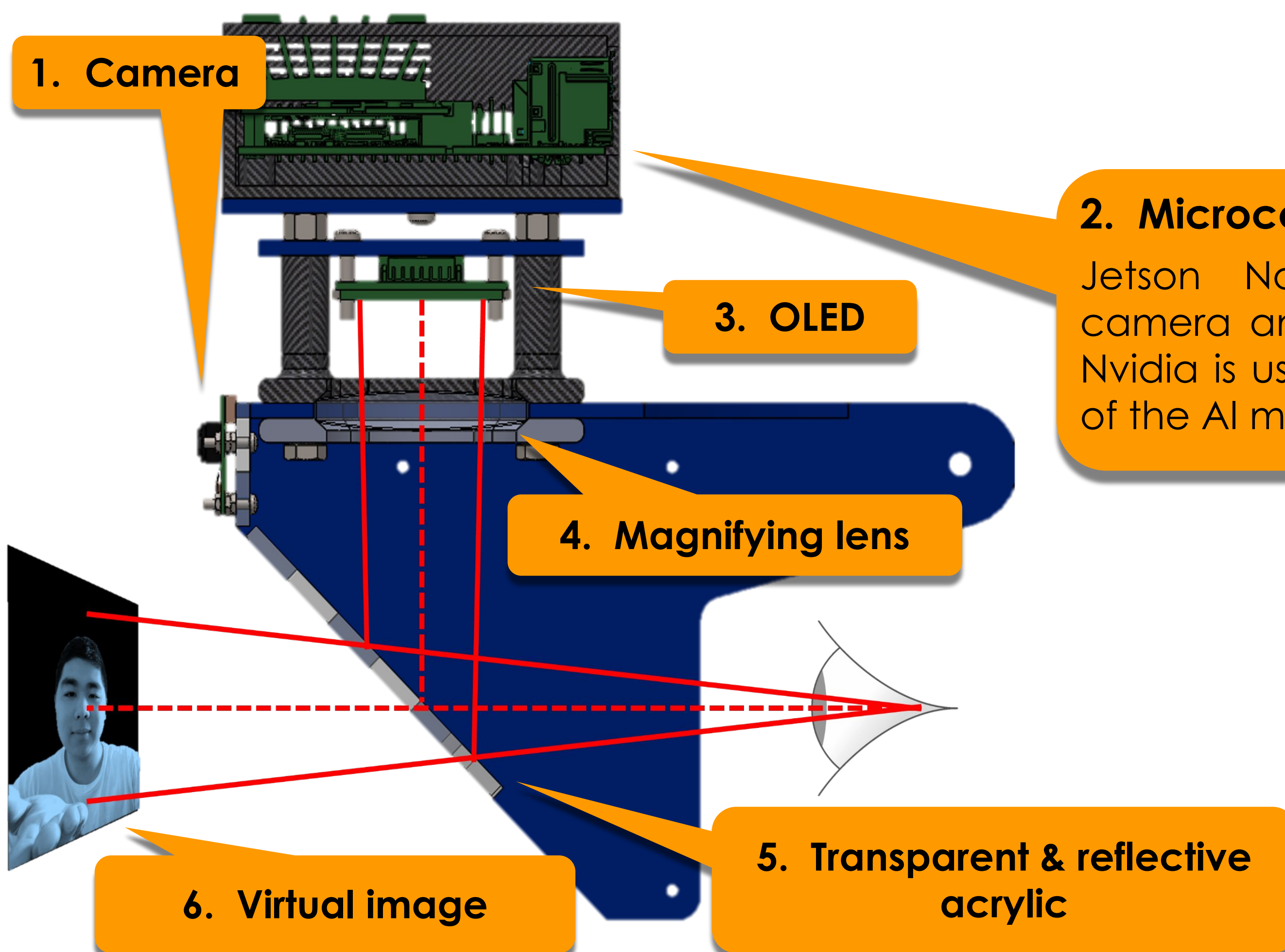
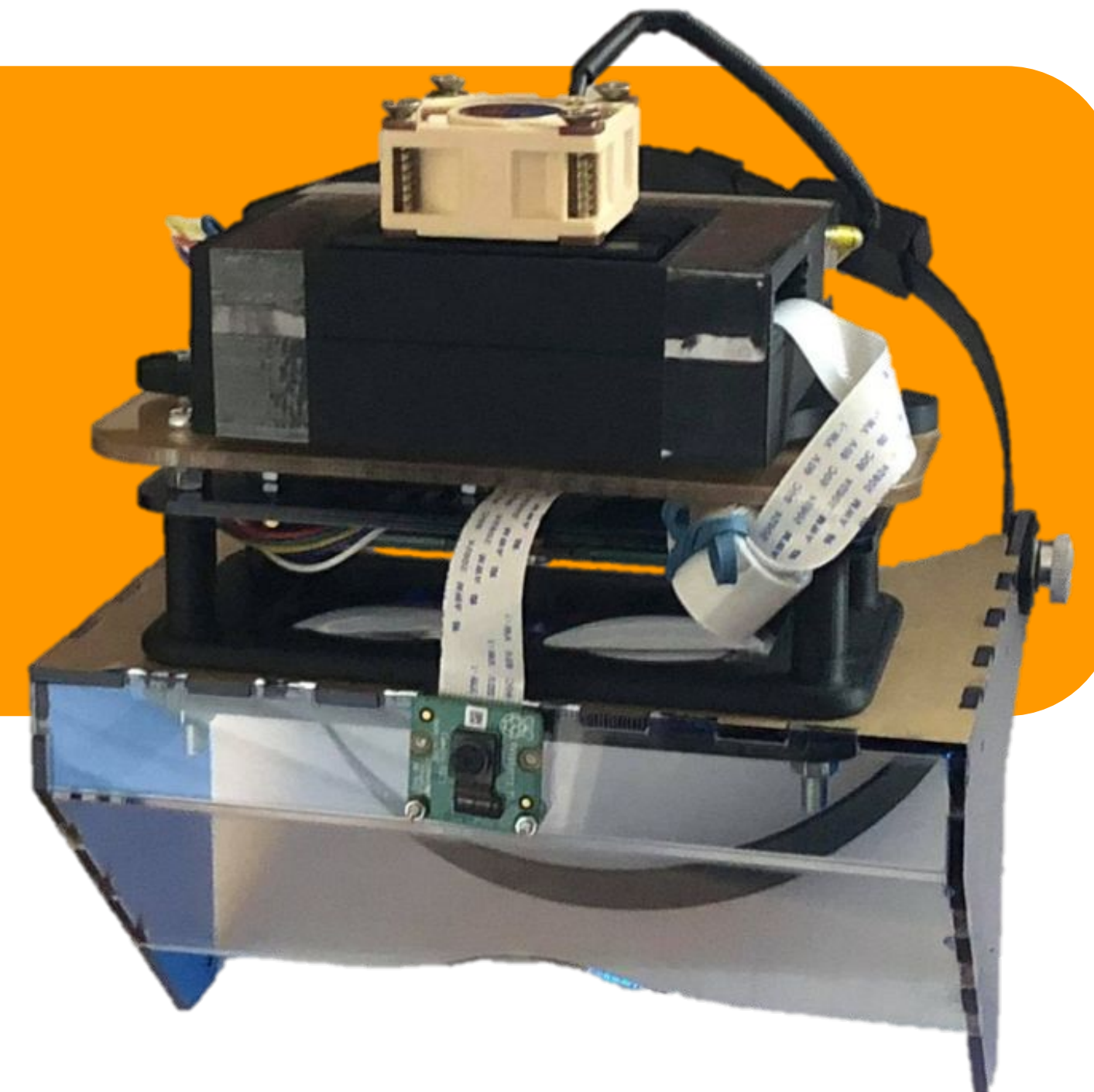


Smart Glasses

Supervisor: Mr Michael Zenere

Aim

By exploring image projection through optics and machine learning algorithms to segment vehicles and pedestrians from the image, the AR glasses presented highlight objects that would otherwise be difficult to distinguish under the effects of certain kinds of vision impairment. This project is aimed to be **a portable and modifiable solution for augmented glasses.**



2. Microcontroller

Jetson Nano utilised to drive the camera and OLED displays. Integrated Nvidia is used to optimise the inference of the AI model



Semantic segmentation

Using PyTorch library, LR-ASPP semantic segmentation model is trained with Cityscape, Mapillary and BDD100K dataset to detect pedestrians and vehicles from the background. Model is trained to find the balance between best accuracy and inference time.



CITYSCAPES
DATASET

BDD100K



Github link to check the project: <https://github.com/sqiu0004/Smartglass>