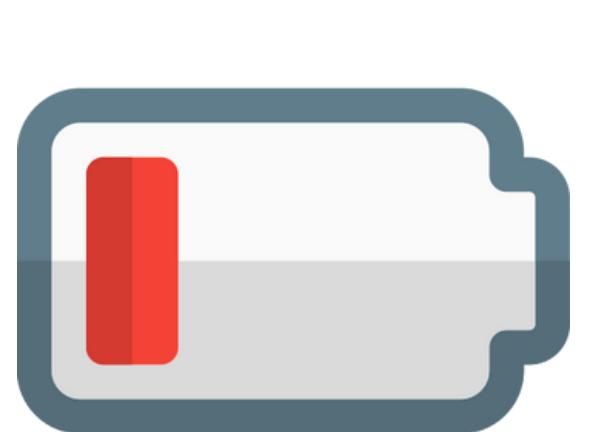


PIXELGEN: RETHINKING EMBEDDED CAMERA SYSTEMS FOR MIXED-REALITY

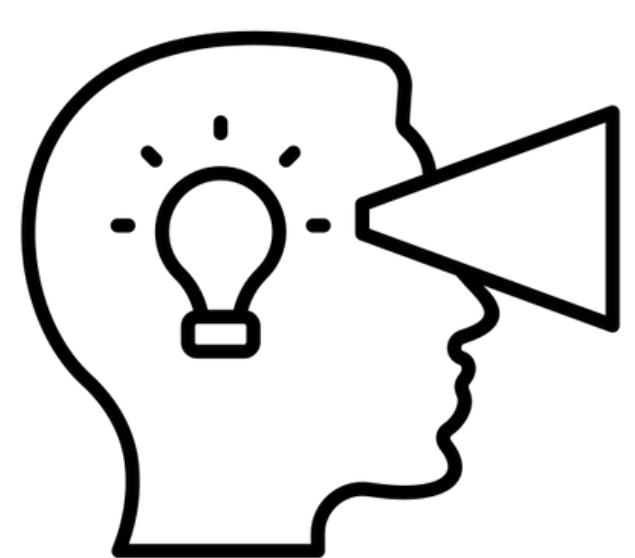
Kunjun Li*, Manoj Gulati*, Dhairy Shah, Steven Waskito, Shantanu Chakrabarty, Ambuj Varshney

ambujv@nus.edu.sg

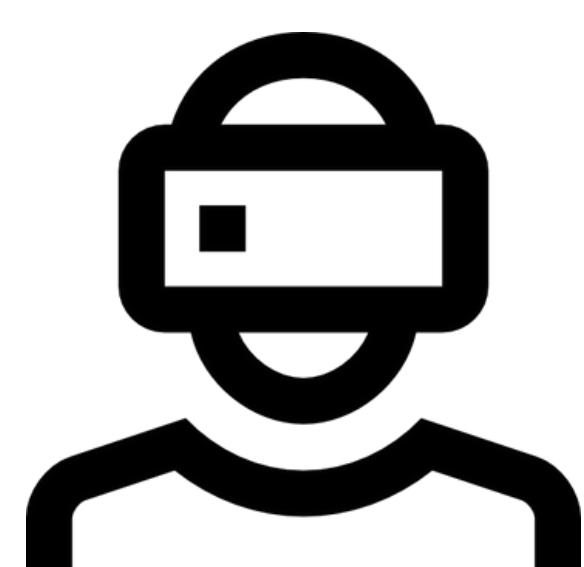
EXISTING EMBEDDED CAMERA SYSTEMS



Power consuming

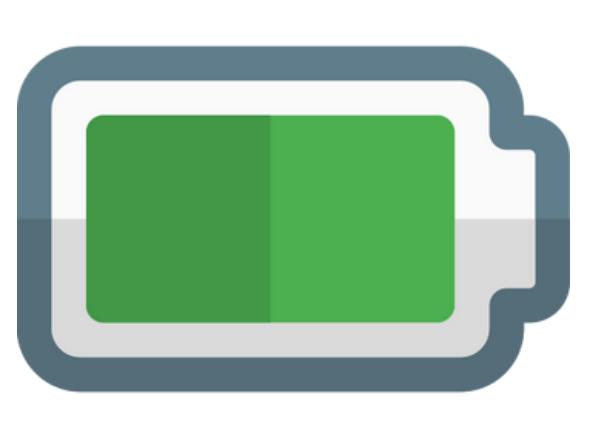


Captures only visible light

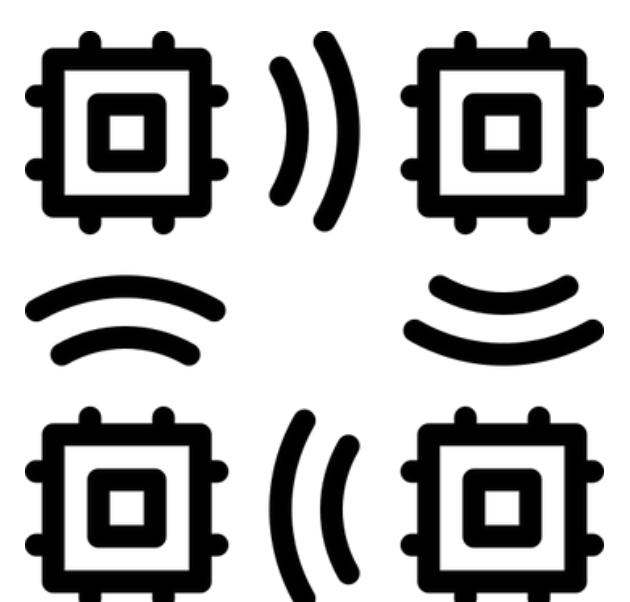


Unsuitable for mixed-reality headsets

PIXELGEN



Power efficient

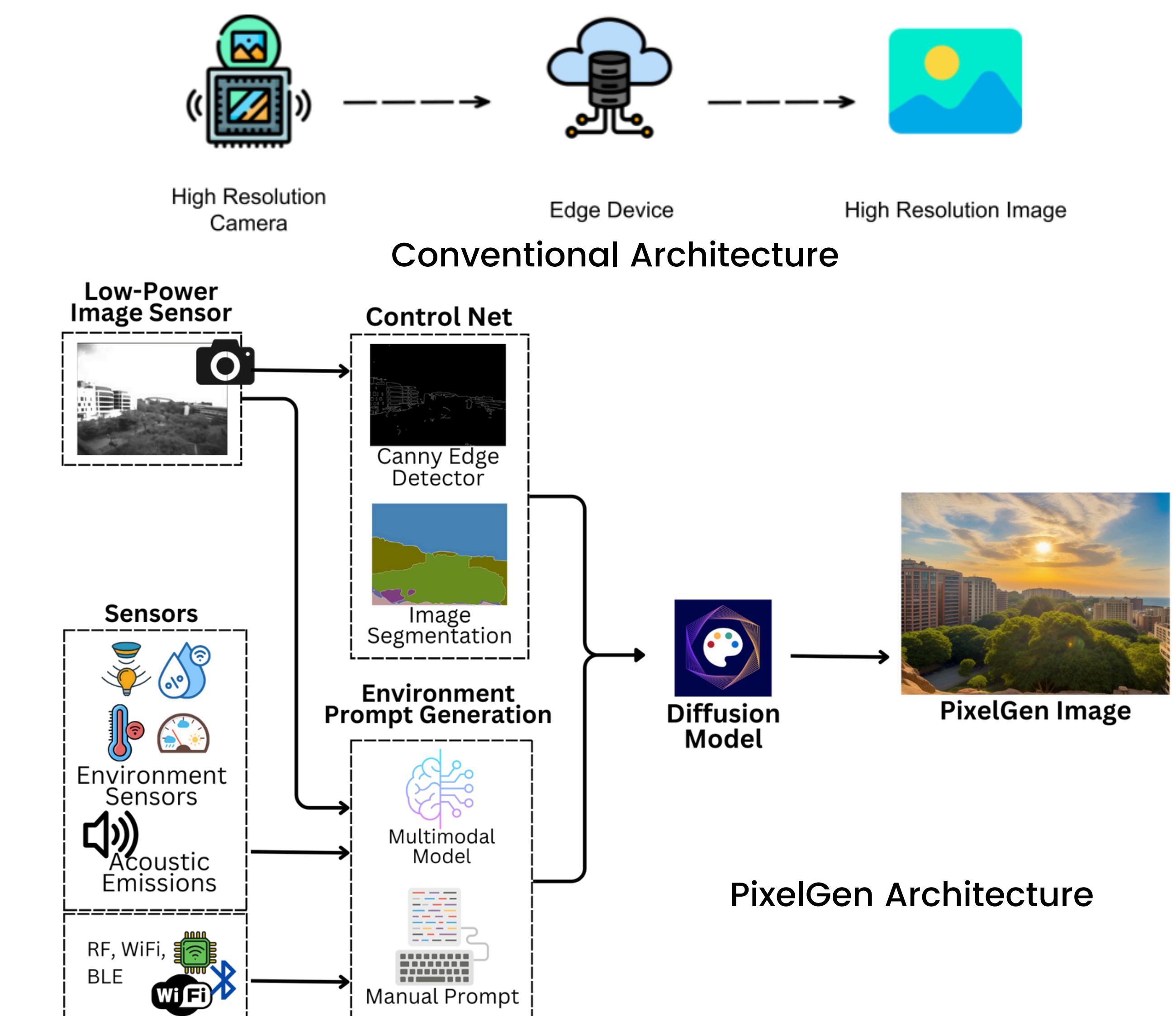


Broader representation with different sensors

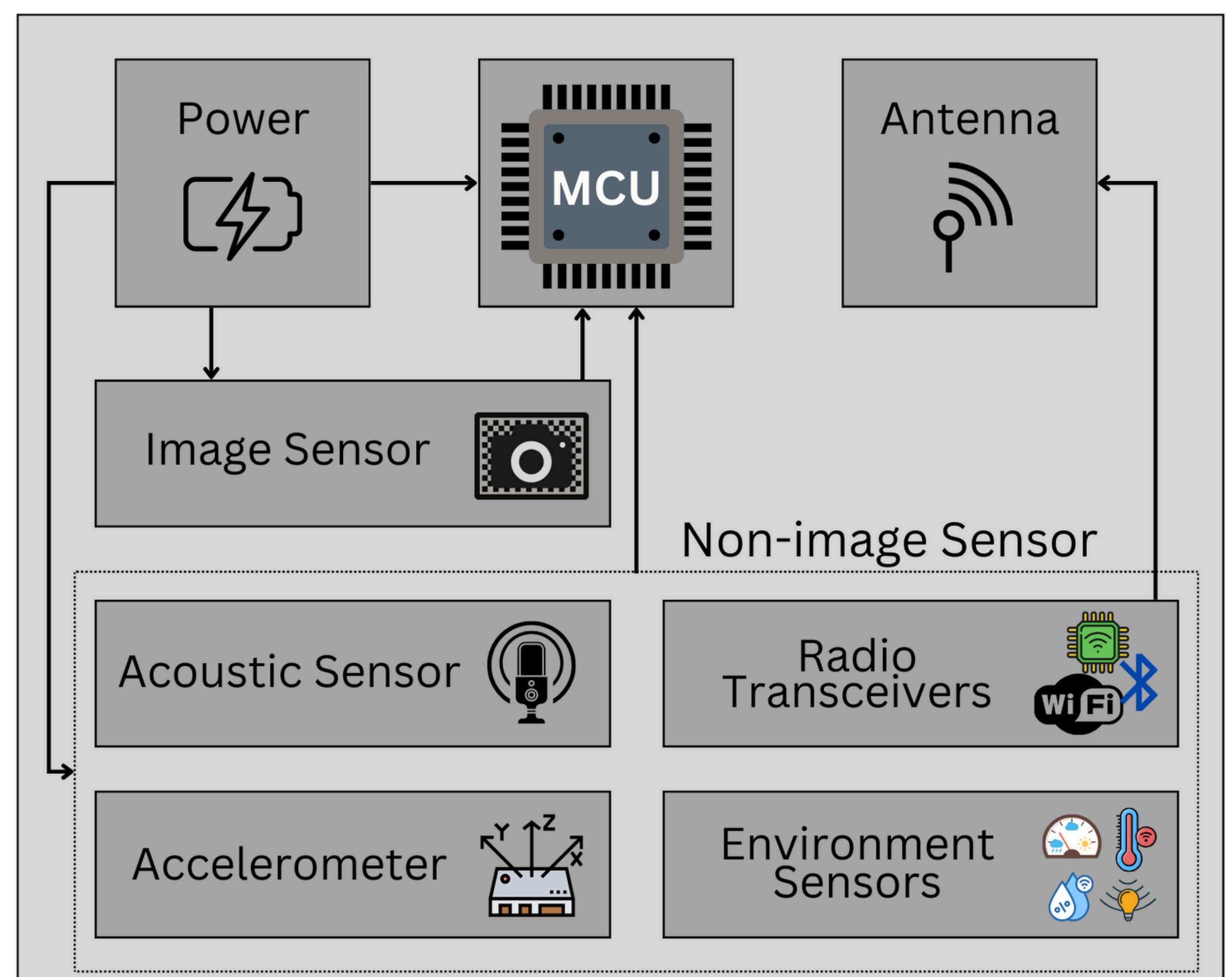
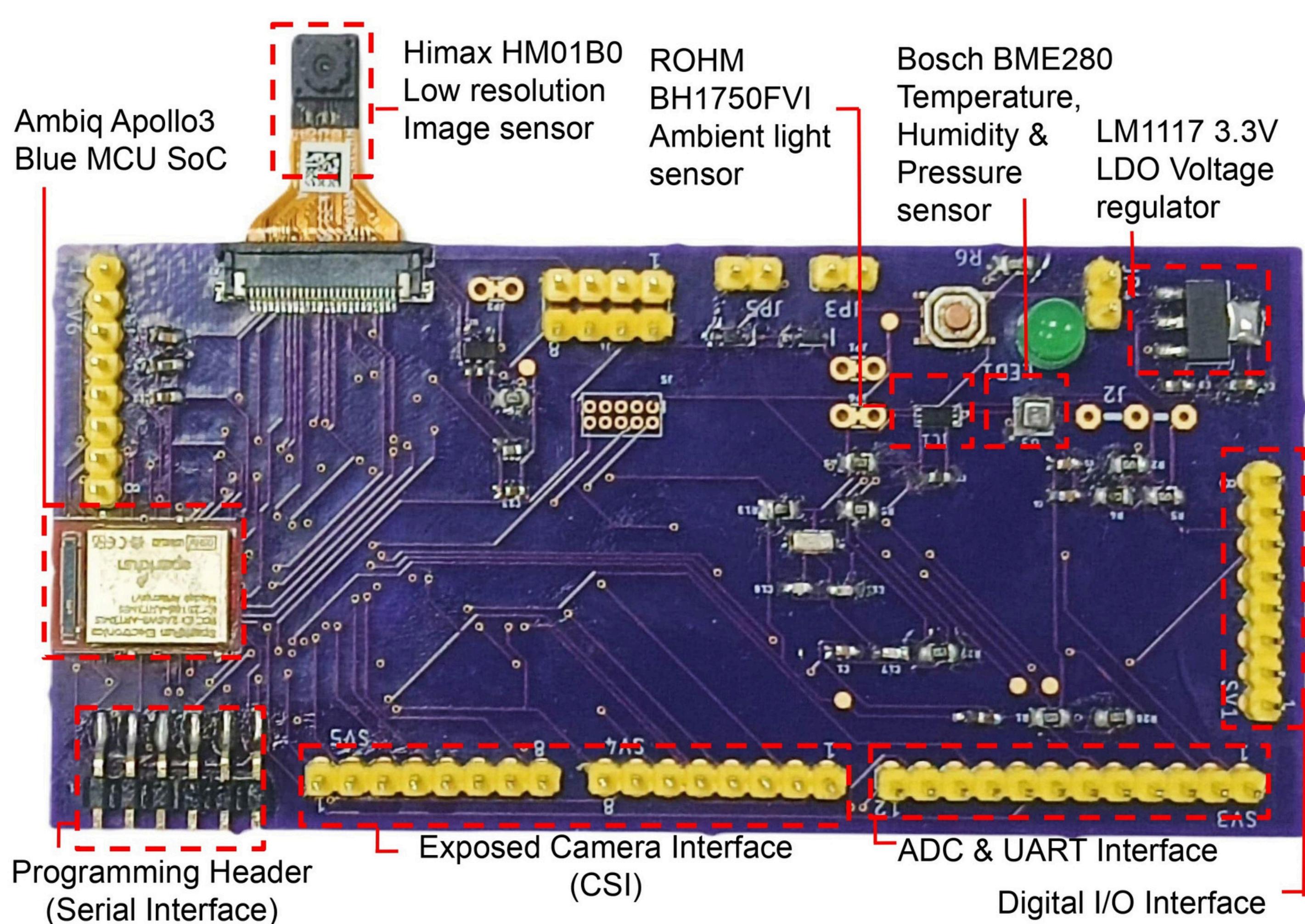


Novel representation

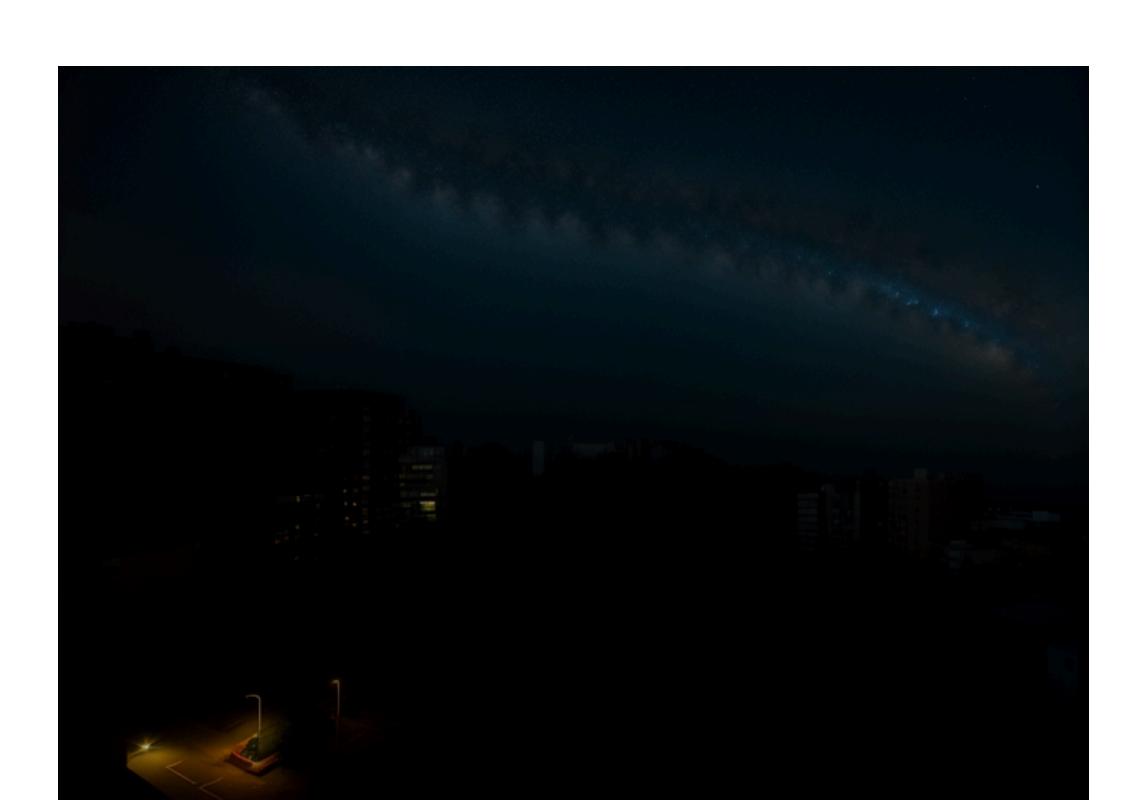
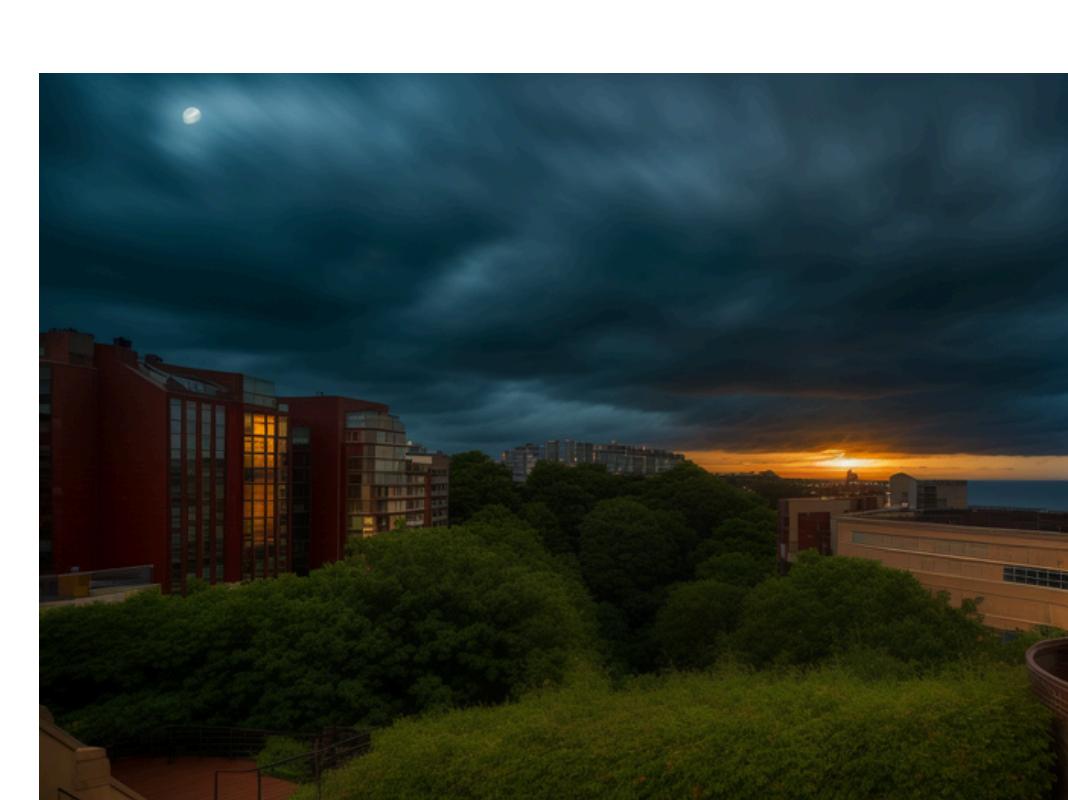
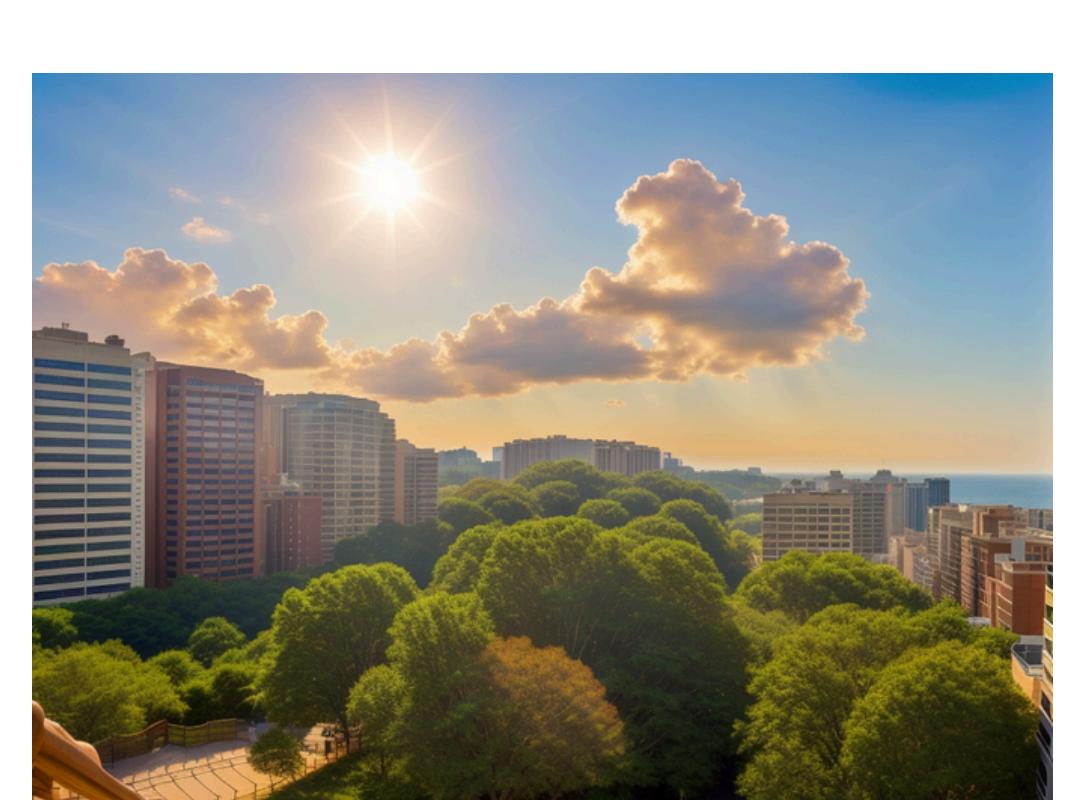
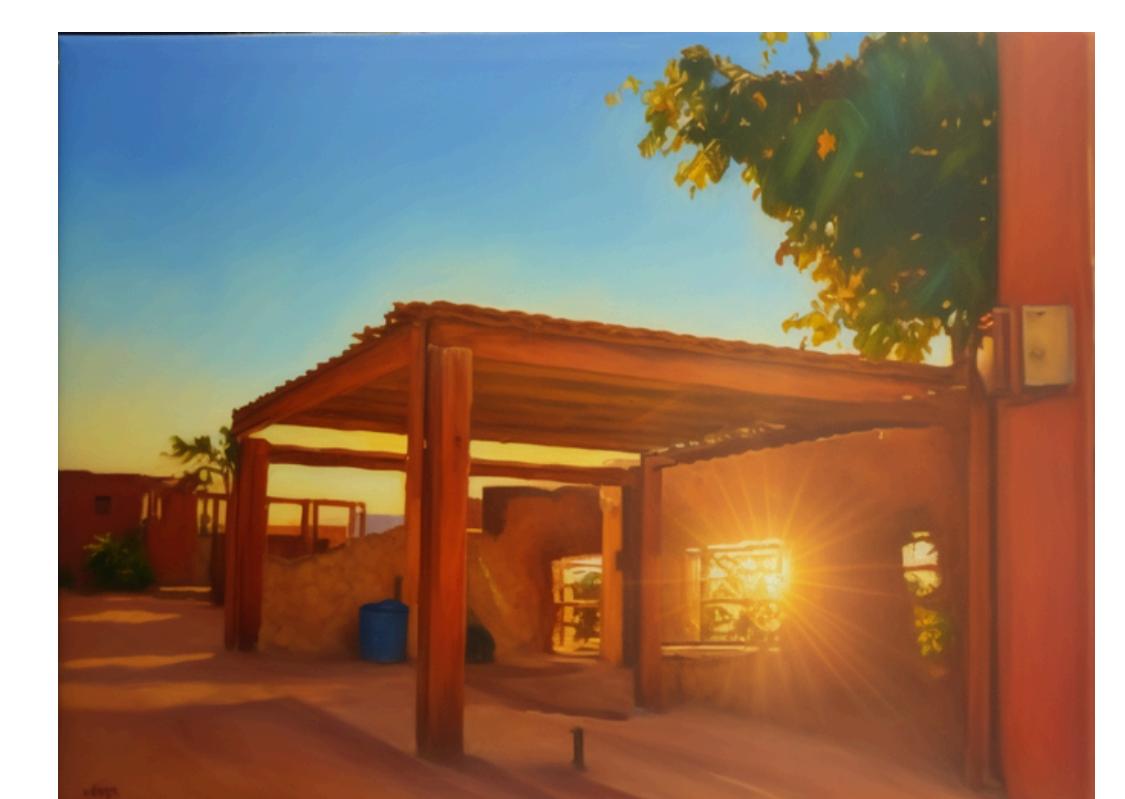
OVERVIEW



Hardware comprising of low-resolution camera and other sensors



Low Resolution Monochrome (324x244) to High Resolution RGB (968x728) with different sensor data



Novel representation with style "Oil Painting"