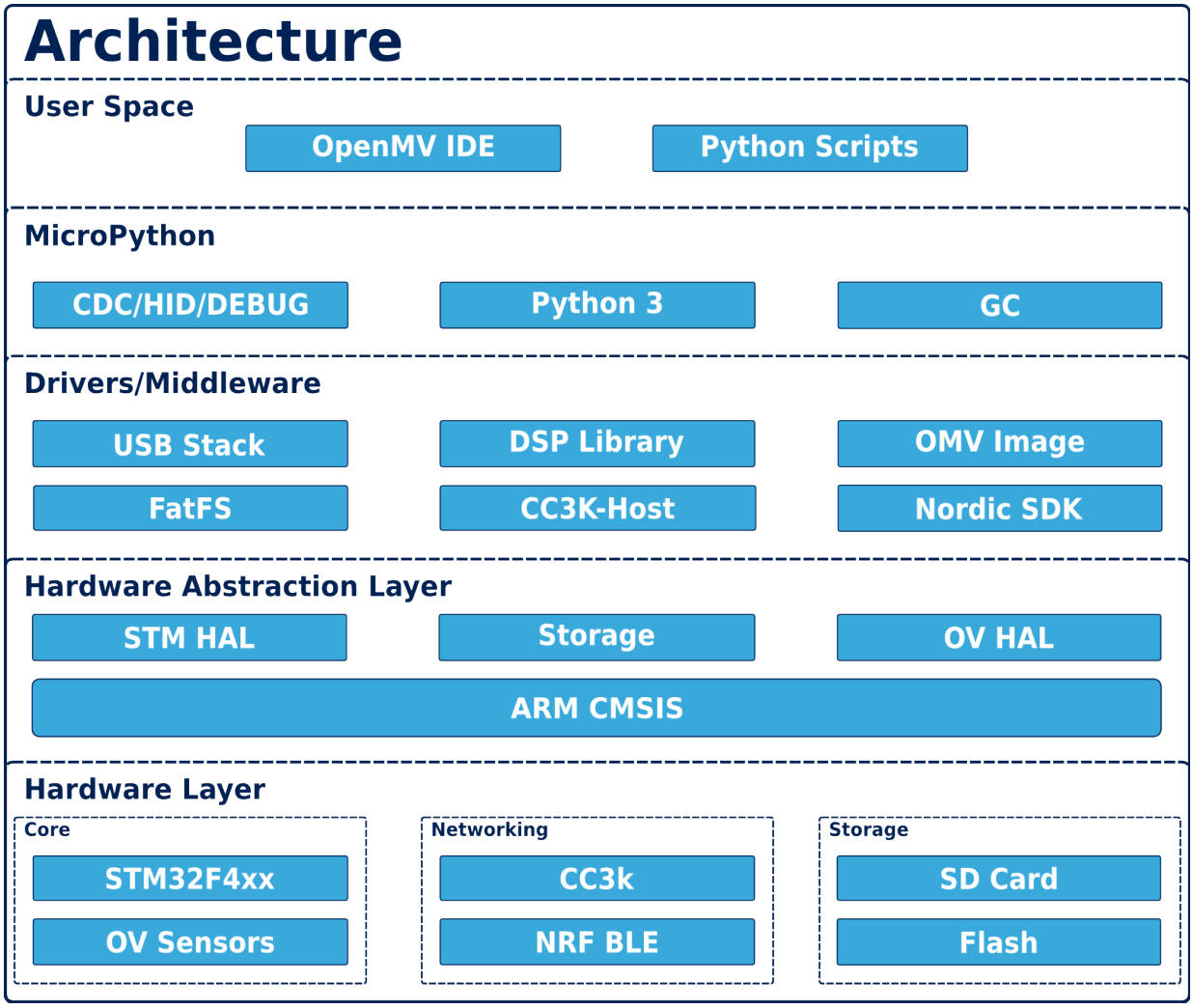
OpenMV

The OpenMV project is a low-cost, extensible, Python-powered machine vision modules, that can be programmed to capture images/videos and save them to the on-board uSD or stream them over WiFi. OpenMV can also do image processing like blob detection, face detection, feature extraction and more....

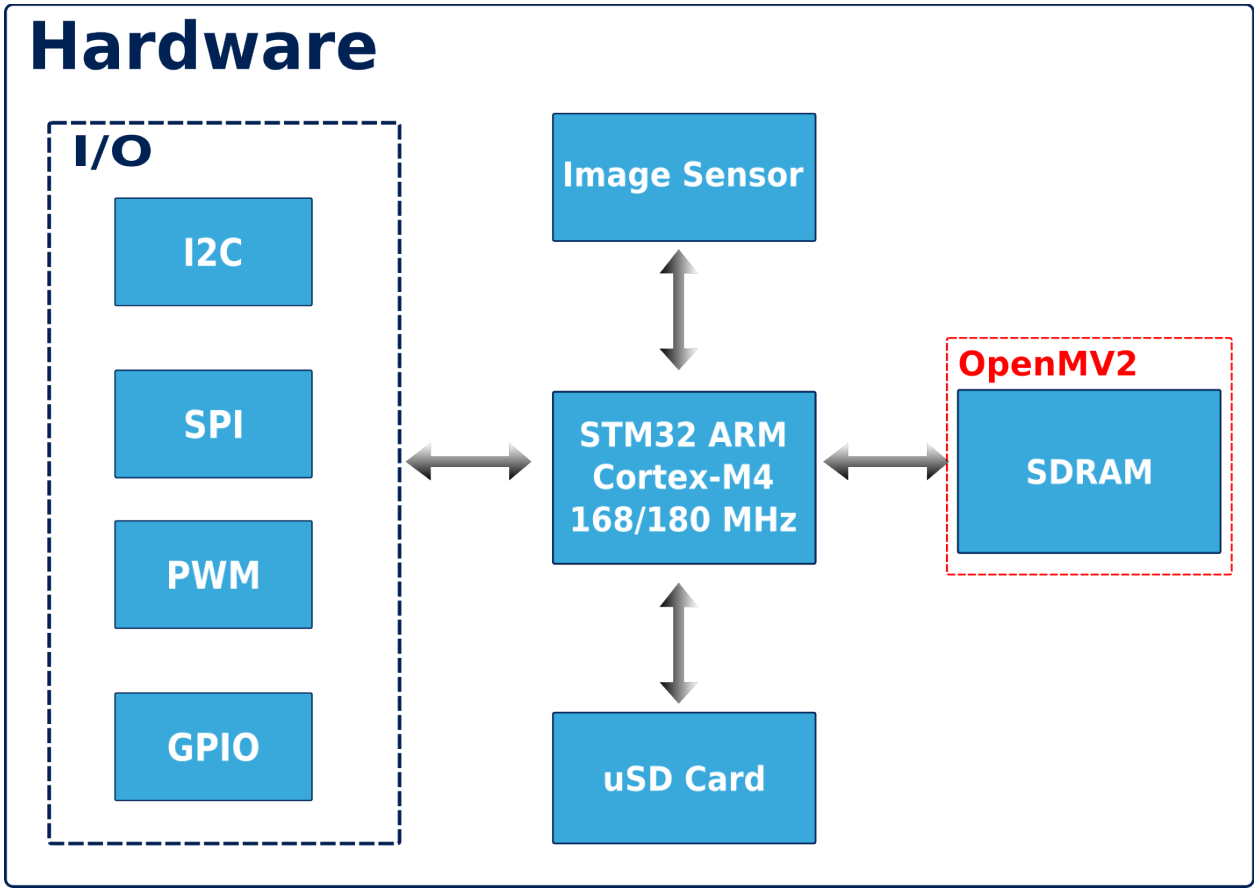
The Software:

OpenMV is completely programmable in Python 3 it can execute user scripts from the internal MCU flash or the external uSD. Python scripts have access to the standard peripherals (SPI/I2C/UART), the uSD, the expansion shields, and of course the image processing code. It also has a user-friendly IDE for programming and uploading scripts to the camera.



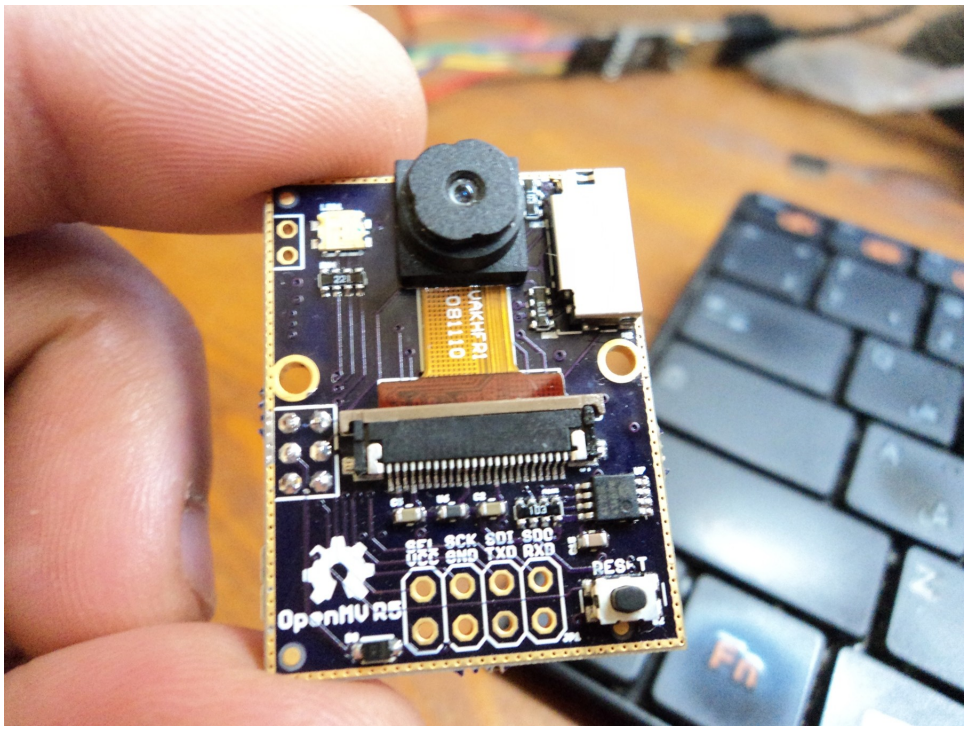
The Hardware

The hardware is based on an STM32F4xx 168/180MHz ARM Cortex-M4 MCU and the low-cost OV9650 (1.3MP) or OV2640 (2MP/JPEG) sensors, and it has I/O header for the USART/SPI/I2C/PWM and an on-board uSD socket...

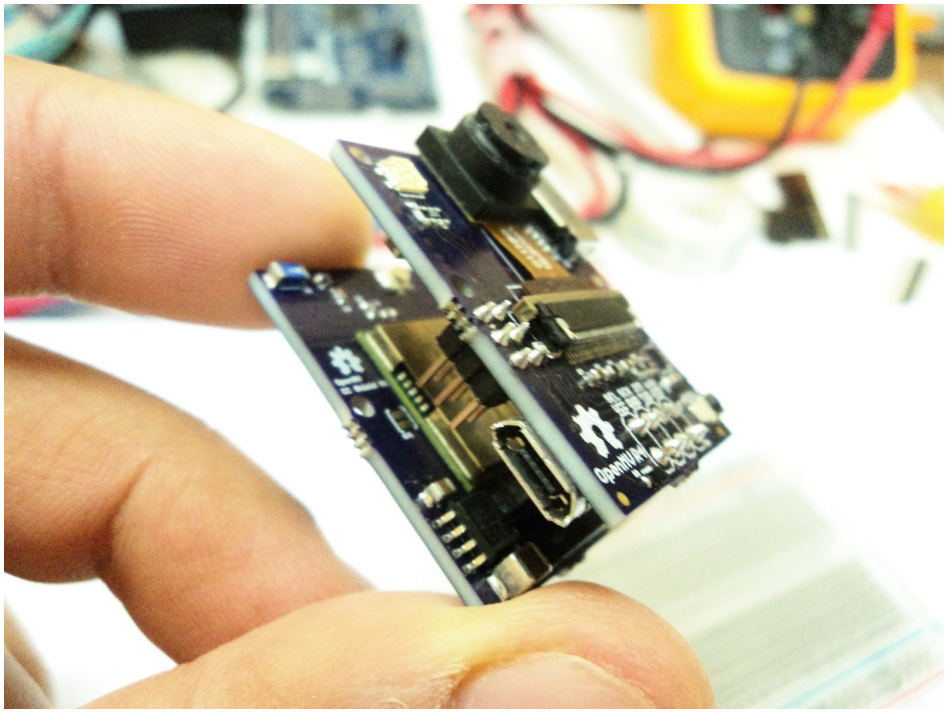


Prototypes

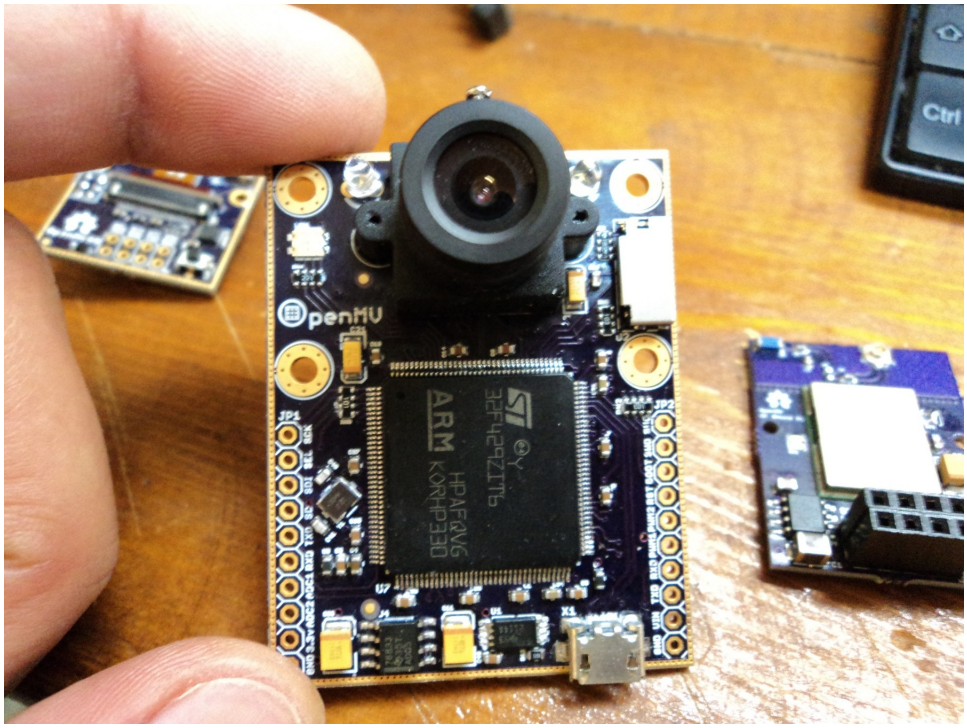
OpenMV1:



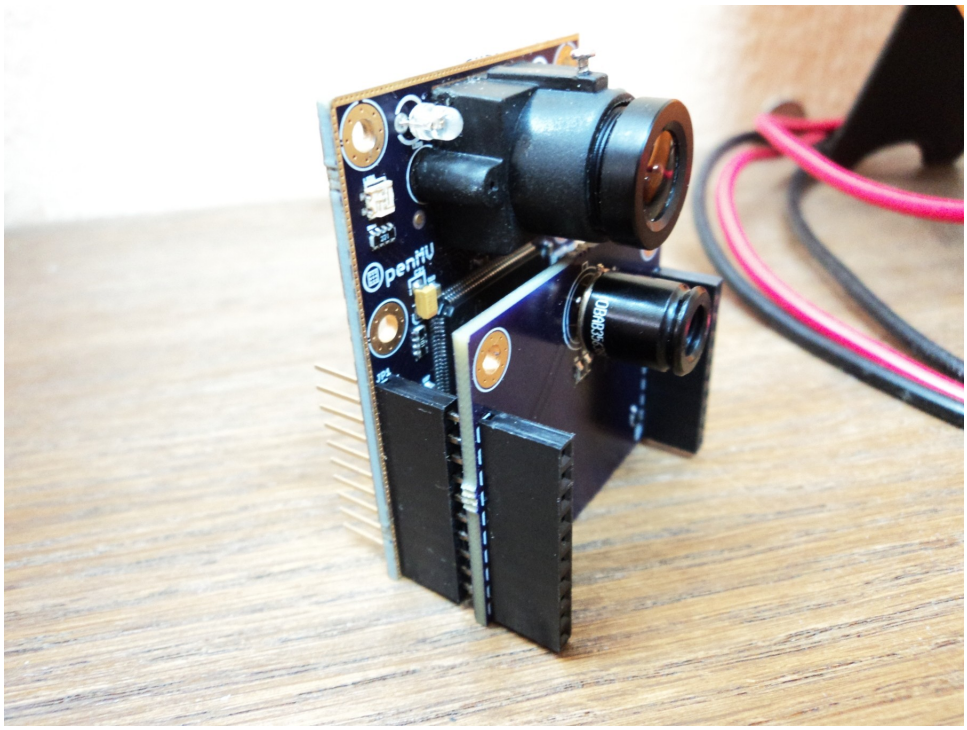
CC300 WiFi Shield:



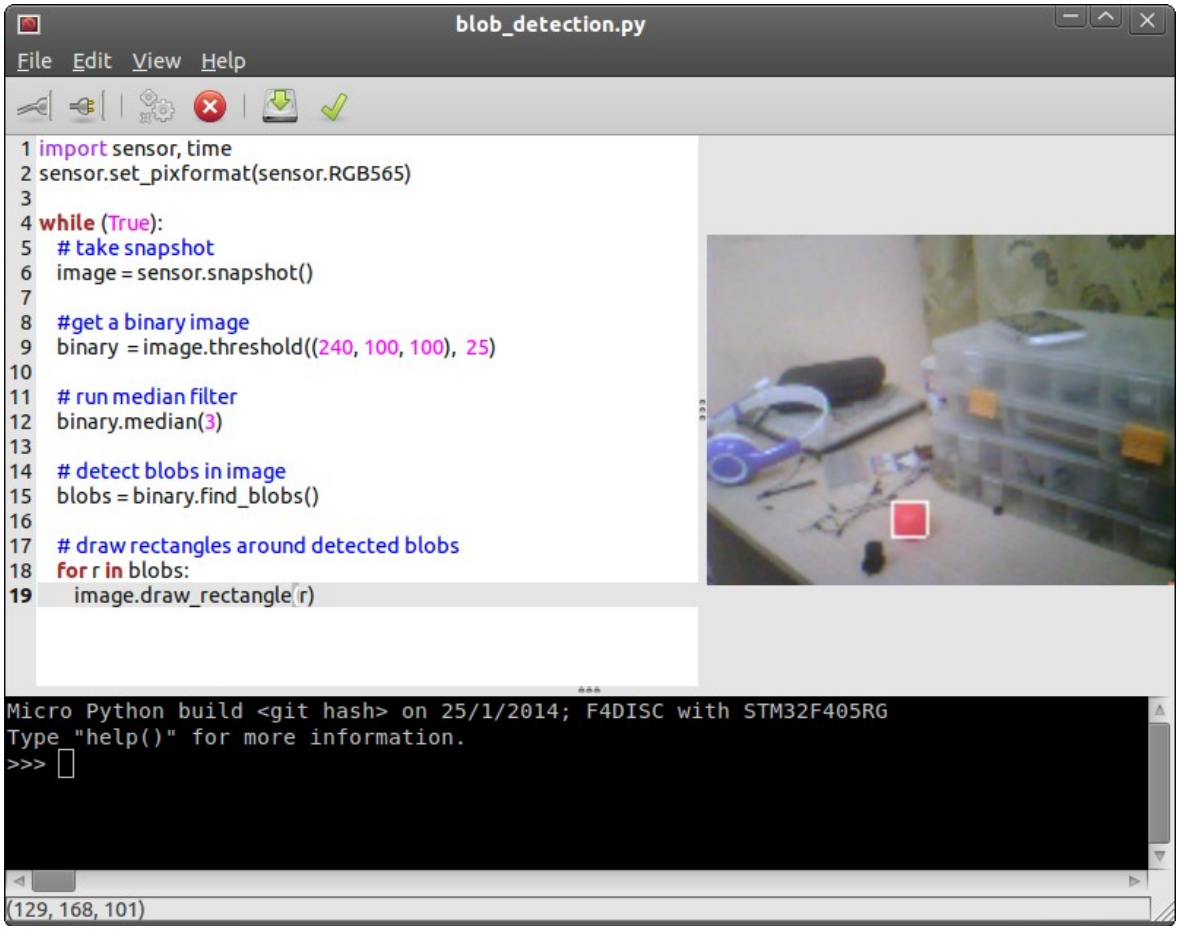
OpenMV2:



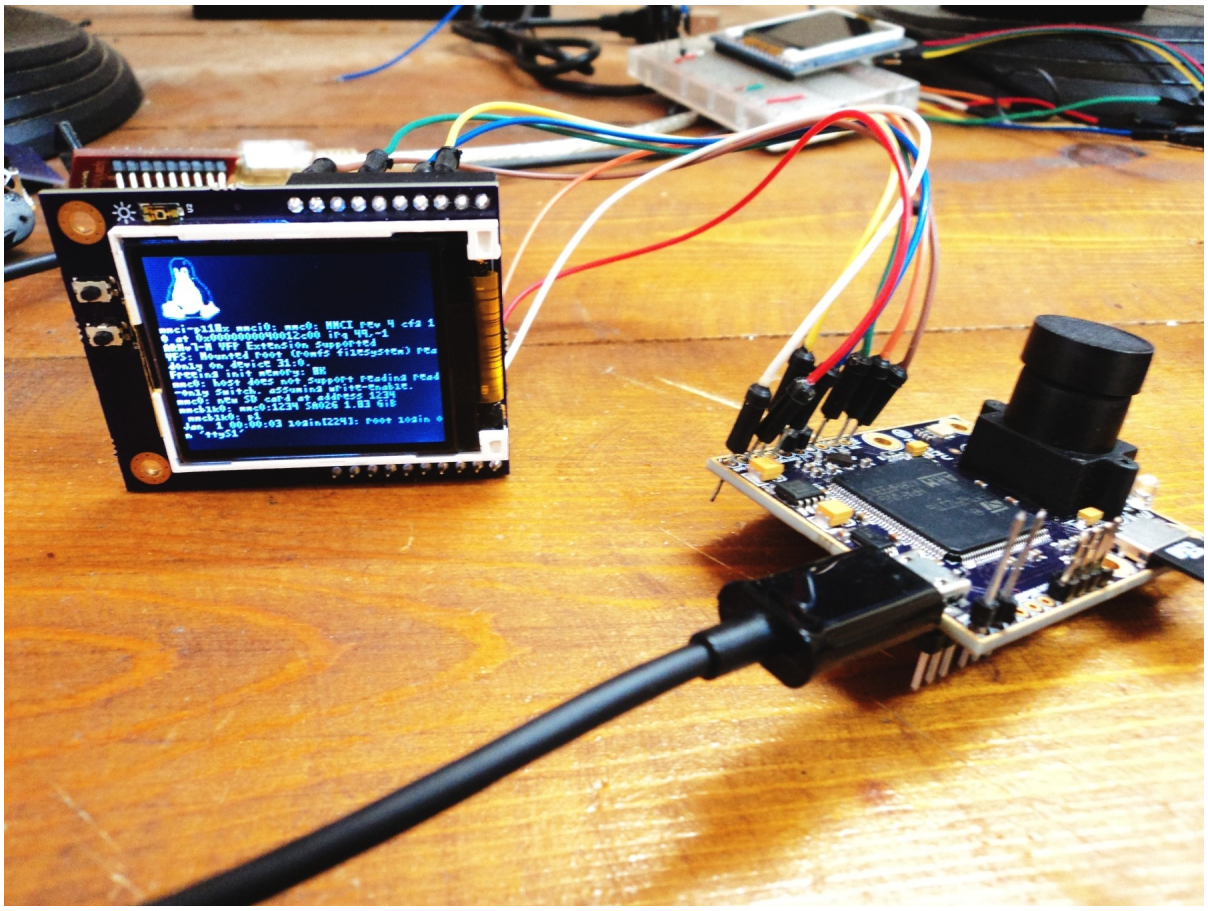
Thermal IR Shield



The IDE running blob detection on OpenMV1



uClinux on OpenMV2



Thermal Imaging with OpenMV2