

**SPECTRHAL:
HANDHELD SMART MULTISPECTRAL CAMERA,
WITH APPLICATION IN FOOD QUALITY CONTROL**

SPECTRHAL

Self-powered

Battery operated, cable-free, handheld

Wireless streaming

5GHz WiFi interface for realtime data transfer

Embedded CPU+GPU

Edge computing (CNN, RNN, etc) for machine vision applications

1.2 MPx multispectral camera

12 cubes per seconds with minimum latency

15 bands illumination

Controlled illumination from 400 to 970nm



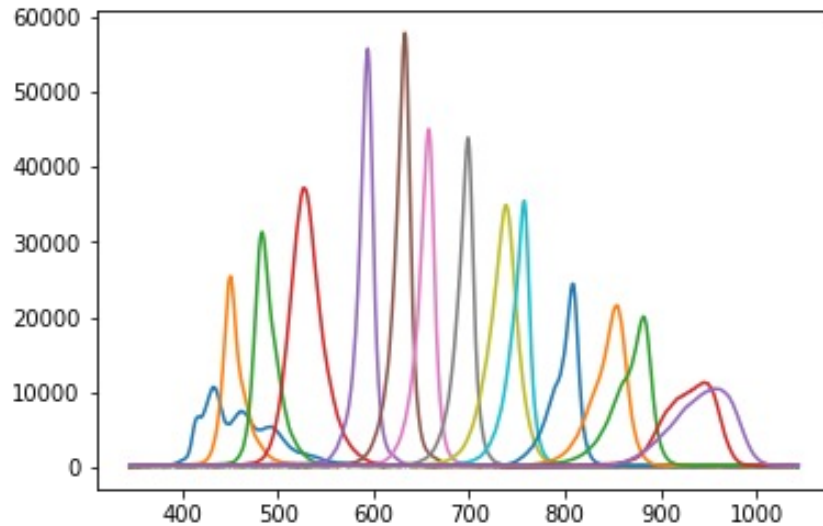
SPECTRHAL - SPECIFICATIONS

- High resolution 1.2 Mpx
- Cube acquisition 12 Hz *
- Multispectral 15 bands
- Wide spectrum 400 to 970nm
- High-end processing 4 core CPU + GPU
- Realtime processing TensorRT, TensorFlow
- Wireless communication Web-based GUI



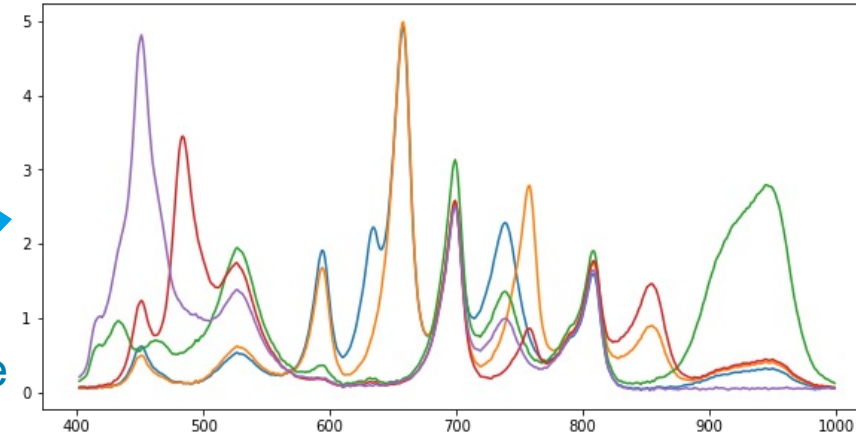
ACTIVE ILLUMINATION

15 raw LEDs' spectrums



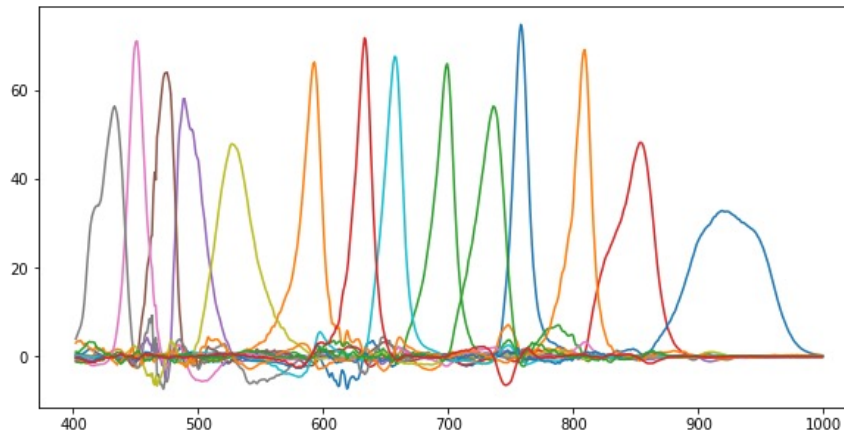
hardware

5 mixed illuminations



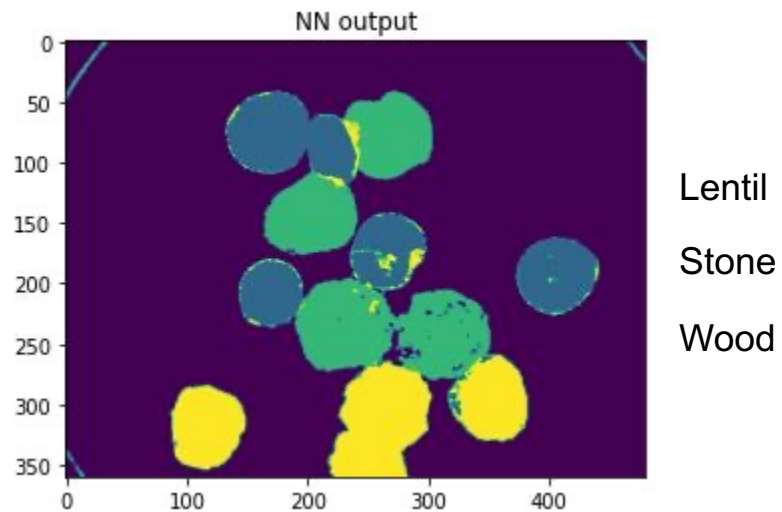
software

14 unmixed bands



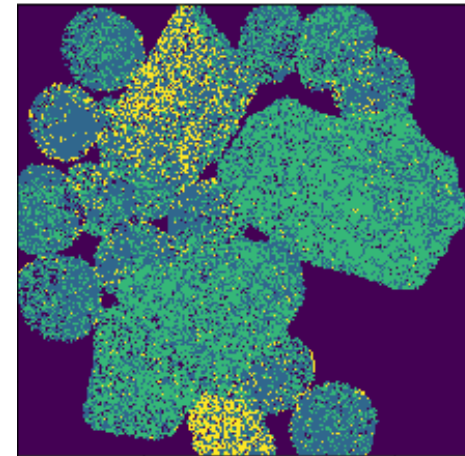
APPLICATION SPECIFIC ILLUMINATION

To discriminate lentil versus stone & wood : only 2 acquisitions are enough

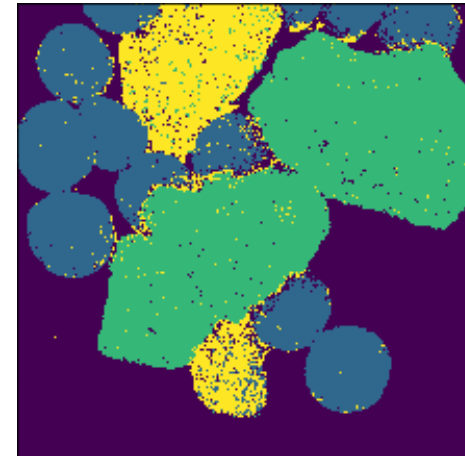
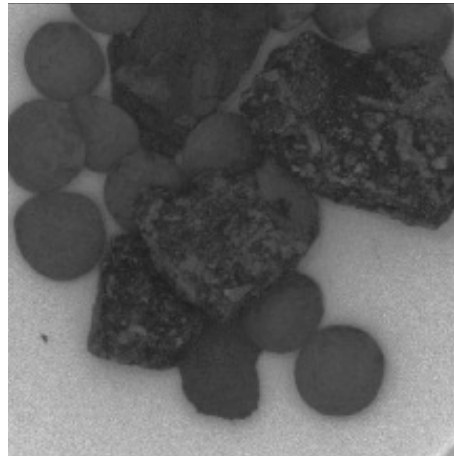


MULTISPECTRAL VS. RGB

RGB



Multispectral





FACING THE CHALLENGES OF OUR TIME