

Evaluation of Embedded Hardware for Cone Detection

- Many [Hardware accelerators](#) on Kria Board
- Currently only FPGA is used
- Want to use all available accelerators to gain maximum performance

Use Case for GPU

- Cone detection also done with visual computing approach
 - first color segmentation
 - then template matching with FFT
- this could be accelerated with GPU
- choose one part of that (which works best)

First Steps

Getting used to the systems

- Power up GPU and RTP via Platform Management Unit
- Execute simple examples on [GPU](#) and [RTP](#)

Implementation

- Evaluate which Framework would be best suited for our use case (keep in mind compatibility with ARM Mali GPU)
 - OpenGL
 - OpenVG
 - OpenCL
 - other?
- Implement e.g. the visual computing cone recognition pipeline
- Compare execution speed with runtime on CPU