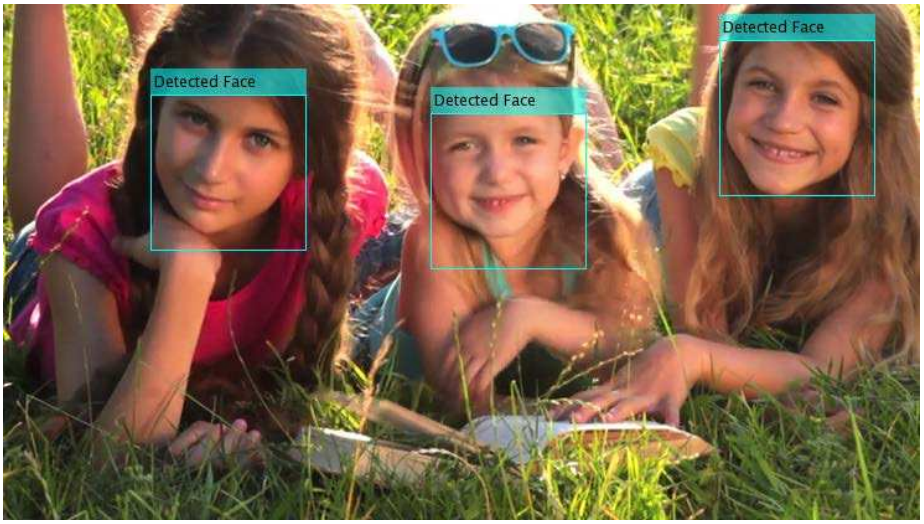
iFaDe

A fast, high precision, low power, real-time face detector

iFaDe is a unique **face detection system** that has been optimized for the challenging computational environment of **embedded devices** and can process Full HD video sequences in real-time. iFaDe exhibits high-speed detection rate, making it a perfect solution in camera ISP pipeline, for functions such as auto-focus, auto-contrast etc. The combination of high-quality performance with low computational requirements and low power consumption makes iFaDe an excellent solution for mobile appliances.



Features:

IRIDA Labs's iFaDe is designed as **embedded software** performing precise face detection capable to perform on Full HD video sequences

In addition, the high detection speed features of iFaDe, (15-fps for two-scale search), make it a perfect choice for ISP-pipeline integration enabling functions such as auto-focus, auto-white balance etc.

The system is developed in order to work with the lowest possible power consumption. iFaDe strives to minimize cycles per pixel so that the core processor can be clocked below its nominal maximum clock rate. In order to achieve this, iFaDe was designed to fully exploit the special architectural characteristics of any processing core such as VLIW and SIMD vectorization.

iFaDe use scenarios:

- ISP Pipeline
- Face Verification

Unique features:

- Fast and precise face detection
- Real time performance for full HD
- Able to run in fixed-point devices
- Low-power consumption
- Platform independent

Furthermore, iFaDe was designed to be compatible with the fixed-point nature of most of the modern mobile processing cores, incorporating arithmetic techniques that do not require floating-point calculations.

The use of iFaDe in a mobile environment imposes requirements for low power consumption, memory use and clock speed which are successfully met in the platforms that iFaDe currently supports and is guaranteed for any future implementation.

Supported Platforms:

iFaDe is platform-independent software IP able to run in various fixed-point and floating-point cores. Platforms currently supported include **Tensilica/Cadence IVP**, **ARM Cortex A9** and **Texas Instrument Da Vinci** family. Other platforms can also be supported.

Deliverables:

Library files, technical documents, etc. per supported platform. For details, please contact Irida Labs.

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