

# STM32F767 microcontroller

## Hardware specific

### System initialization

- System clock
- Peripherals
- I/D caches
- Flash prefetch

### Utility functions

- Various peripheral drivers
- SysTick timer
- DWT timer

Timing driver

UART driver

SPI driver

I2C driver

## Application specific

### ML inference box

- Preprocess images
- Invokes inferences
- Predicts class probability

### Tensorflow Lite for Microcontrollers

Model Interpreter

Stored model

Error reporter

Result reporter

### Communication interface

- Between STM32F767 and NRF52840

### Printf library

- Memory constrained implementation for embedded devices

### FLIR Lepton driver

- Initialization
- Camera control over TWI
- Image data receive over VoSPI

Wisent Edge tracker

FLIR Lepton 2.5 thermal camera