Non-collaborative temperature monitoring using a thermal camera
Contents
1. Project Details........................................................................................................................................3
   1.1 Disclaimer........................................................................................................................................3
2. Workflow....................................................................................................................................................4
1. **PROJECT DETAILS**

AI Thermometer is an open-source project for automatically measuring the temperature of people using a thermal camera. The software can be freely used for any non-commercial applications and it is useful for the automatic early screening of fever symptoms. The software first detects people with an off-the-shelf body pose detector and then finds the extract location of the face where the temperature is measured. The system requires a known reference temperature or a camera with exact radiometric calibration. The position of the reference is provided by the user (this information is shown as a single small green circle on the image) while the temperature can be known a priori or given by a blackbody calibration system. The code is open source and can be downloaded from: [https://github.com/IIT-PAVIS/AI-Thermometer](https://github.com/IIT-PAVIS/AI-Thermometer)

1.1 **DISCLAIMER**

The information and content provided by AI Thermometer is for information purposes only. No health or medical related decision should be based in whole or in part on anything contained within the application without consulting a professional doctor.
2. **Workflow**

- **Thermal stream**
  - 16 bit network stream
  - Data acquisition (workstation)
  - 8 bit conversion for processing

- **Pose Estimation**
  - OpenPose (8 bit stream)
  - People detection
  - Facial keypoints
  - Tight face bounding box

- **Temperature estimation**
  - Average bounding box temperature
  - Reference temperature acquisition
  - 16 bit stream thermal

- **Visualization**
  - JetMap (False colors)
  - Bounding box red/blue
  - Temperature estimate