The Integrated Circuits and Systems lab at WPI is developing a wearable device that is able to assess \( \text{PaO}_2 \) and reveal valuable insights on a patient’s health.

**Advantages over traditional methods**

- **Non-invasive**
  - Less painful
- **Wearable**
  - Patients can receive care outside hospital setting.
- **Wireless**
  - Continuous monitoring
- **Accurate diagnosis**
  - Early notification of potential issues

**My Project’s Aim:** Find a way to calibrate films for the Blood-Oxygen Sensor.

**Sensing Principle**

By linearizing the data, we aim to extract information about the offset between each dataset and gain of each line, to devise a calibration algorithm to correct the sensor readings.

**Future work**

1. Devise an equation for temperature dependency through collected real data.
2. Devise an equation for drift through collected real data.
3. Create calibration algorithms on the firmware and correct the sensor readings.

**References**


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