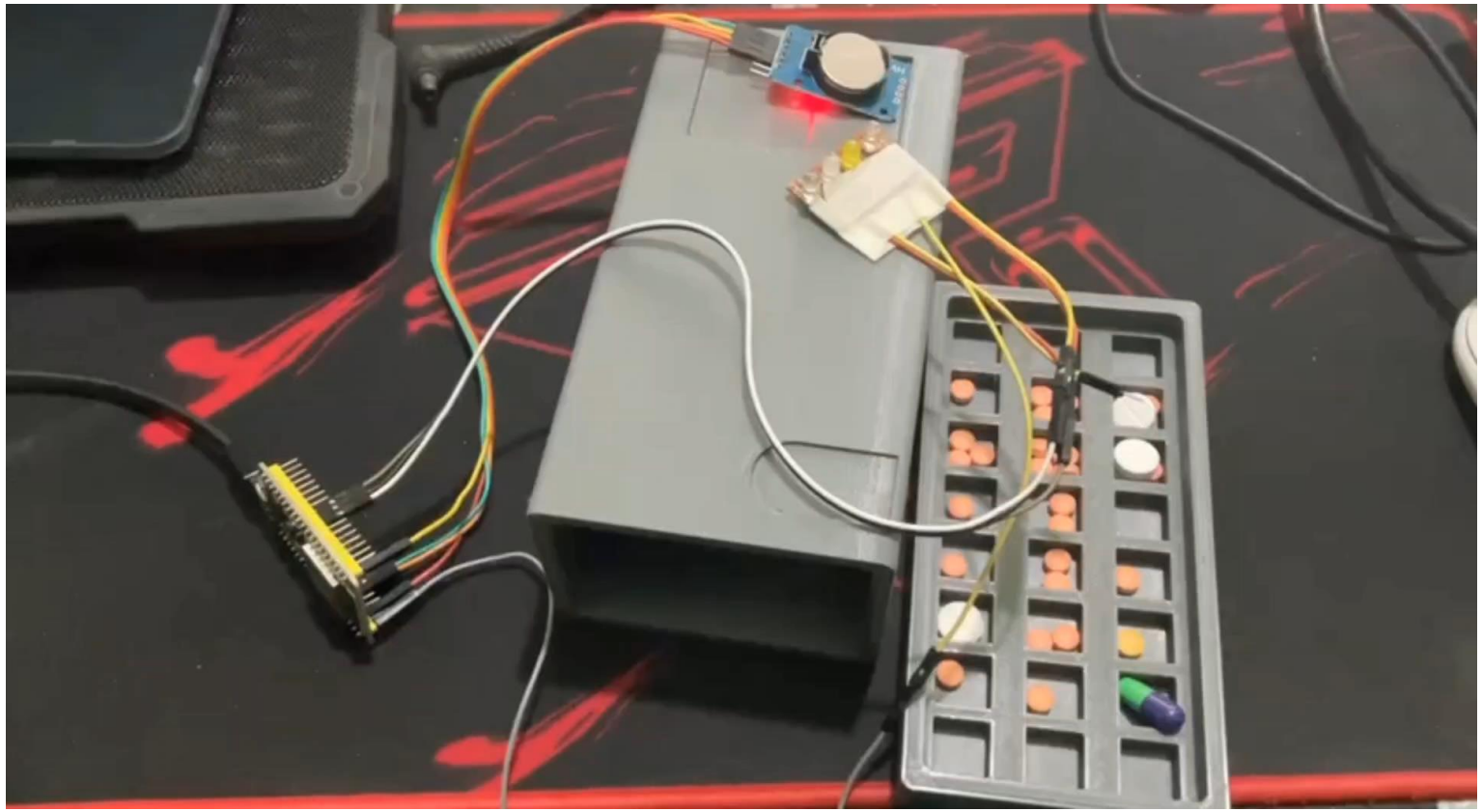
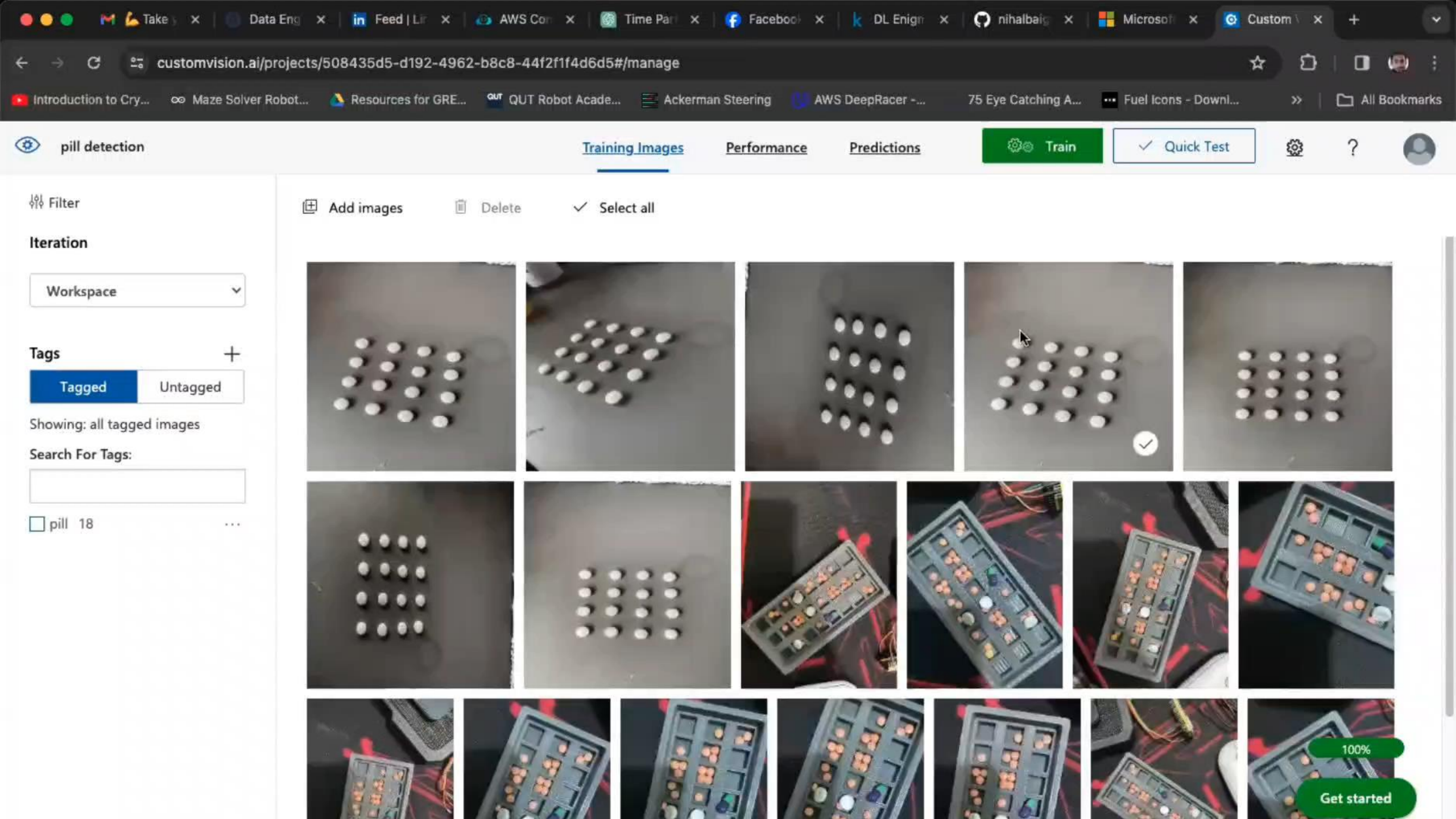
# OUR PROTOTYPE



Our prototype is functional, and funding will help finalize development & market launch.

- Prototype developed & tested with early functionality
- Basic medication tracking & dispensing successful
- Sensor integration in progress for health monitoring


customvision.ai/projects/508435d5-d192-4962-b8c8-44f2f1f4d6d5#/manage
pill detection
Training Images
Performance
Predictions
Train
Quick Test
Filter
Iteration
Workspace
Tags
Tagged
Untagged
Showing: all tagged images
Search For Tags:
pill 18
Add images
Delete
Select all
100%
Get started

localhost


# Pill Detection with Azure Custom Vision

Take a picture

Take Photo

time_data | Arduino 1.8.19


time_data

```
/*  09.010 - Time and date with the DS3231 RTC

  This sketch demonstrates how to set the time and date, and then print them
  to the serial monitor using the highly accurate DS3231 real time clock.

  When equiped with a button battery, the DS3231 will retain correct time and date even
  when there is no main power from the microcontroller.

  The DS3231 also contains a temperature sensor that is readable via the library.

  This sketch was written by Peter Dalmaris using information from the
  ESP32 datasheet and examples.


  Components
  ----------
   - ESP32 Dev Kit v4
   - DS2331 RTC breakout

   IDE
   ---
   Arduino IDE with ESP32 Arduino Code
   (https://github.com/espressif/arduino-esp32)


   Libraries
   ---------
   - RtcDS3231
   - Wire

  Connections
  -----------

    ESP32         |     DS3231 RTC
  ------------------------
    3.3V          |     Vcc
    GND           |     GND
    GPIO21 (SDA)  |     SDA
    GPIO22 (SCL)  |     SCL
    -             |     SQW
    -             |     32K

   Other information
   -----------------

   1. ESP32 Datasheet: https://www.espressif.com/sites/default/files/documentation/esp32_datasheet_en.pdf
   2. Rtc library (contains libraries for various RTCs): https://github.com/Makuna/Rtc
   3. Rtc library wiki: https://github.com/Makuna/Rtc/wiki
   4. DS3231 datasheet: https://datasheets.maximintegrated.com/en/ds/DS3231.pdf
   5. Printf format parameters: http://www.cplusplus.com/reference/cstdio/printf/
   6. snprintf (very similar to snprintf_P): http://www.cplusplus.com/reference/cstdio/snprintf/?kw=snprintf
   7. snprintf_P: https://www.microchip.com/webdoc/AVRLibcReferenceManual/group__avr__stdio_1ga53ff61856759709eeceae10aaa10a0a3.html
```

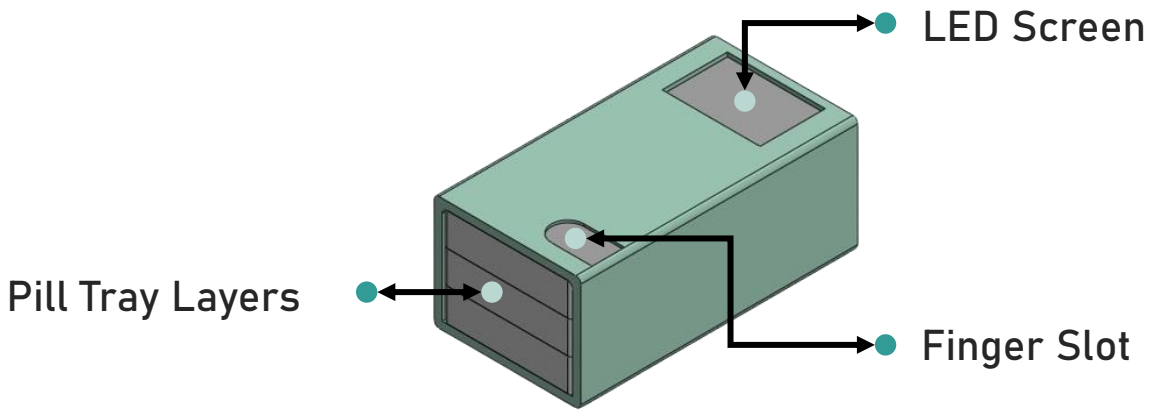
```
Leaving...
Hard resetting via RTS pin...
```

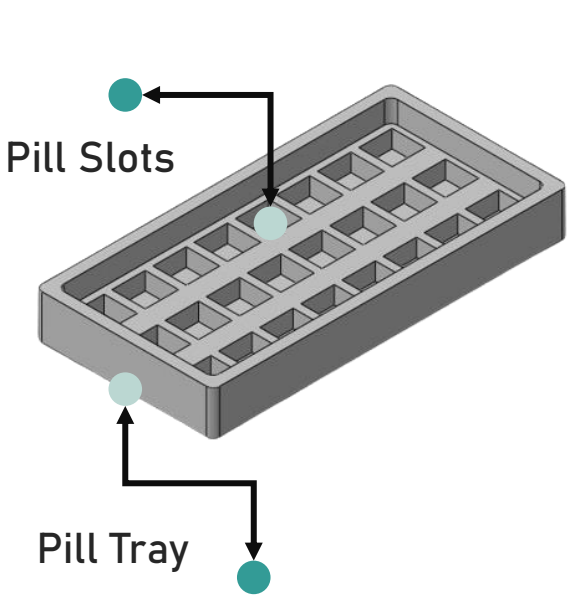
# TECHNICAL COMPONENTS

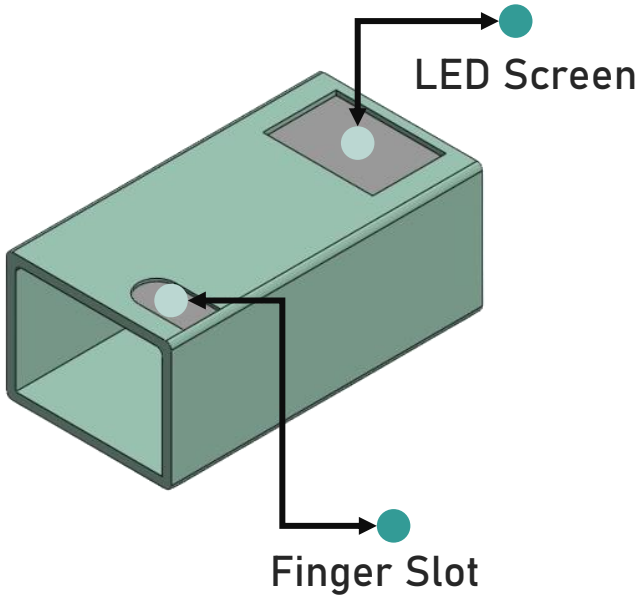
- AZURE IoT Hub: For application of sensors for monitoring health.
- AZURE Custom Vision: For application of computer vision for pill classification and measurement.

| SL # | Components | Type | Activity | Segmentation |
|---|---|---|---|---|
| 1 | The MAX30100 | Pulse Oximetry Sensor | Measuring Heart Rate | Finger Slot |
| 2 | The MAX30100 | Heart-rate monitor Sensor | Measuring Oxygen Saturation | Finger Slot |
| 3 | Bosch Sensortec BMP180 | Pressure Sensor | Measuring Blood Pressure | Finger Slot |
| 4 | ESP-32 Camera | Camera | Measuring Pill Count | Pillbox |
| 5 | LED Screen | OLED Display | Displaying Data | Pillbox |

# MedPunctual 3D Model



# APP INTERFACE