NoodleWatch : spaghetti detection for Prusa CORE One

Hells

VIEW IN BROWSER

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Summary

When a print turn into spaghetti, NoodleWatch pause it. Detection runs on the Coralboard's NPU, with no cloud service.

3D Printers > Prusa Parts & Upgrades

Tags: upgrade prusa cameramount spaghetti failuredetection prusacoreone coreone coralboard

What it is

NoodleWatch is a small box on the outside of the CORE One door.
It hold Coralboard SL with its sensor HAT and camera.
When frame show spaghetti, the print is paused through PrusaLink.

How it works

- Every 5 sec the camera takes a frame
- The frame goes through a YOLOv8n model on the board's NPU
- When 3 of the last 5 frame show spaghetti, the print is paused through PrusaLink
- Optional: the box can also act as Prusa Connect camera

What you need

- 3 printed parts with no support in PETG
- Coralboard SL (Google I/O kit) with its sensor HAT and camera
- M.2 Wi-Fi module Ampak AP12611_M2 (not included in the kit) https://www.digikey.cz/en/products/detail/ampak/AP12611-M2/29518678
- 8 × N52 magnets, 10 × 3 mm
- 4 × M3 × 8 self-tapping screws
- One USB-C cable and a 5 V USB power supply

Mounting

1. Assemble the kit : board, sensor HAT and camera https://developers.google.com/coral/products/SL2610-get-started
2. Fit the Wifi module into the board's M.2 slot
3. Screw the board onto the 4 column of the lid with the M3. (the column are angled, so the camera points toward the center of the bed)
4. Thread the usb-c cable through the opening under the body and plug it into the board
5. Push the lid into the body until the clips snap
6. Press the magnets in: 4 into the mount’s roof and 4 into the top of the body, paired so they attract.
7. Clip the mount onto the top-left corner of the door panel
8. Bring the box up under the mount

Detection status

I'm still working on the model in lab. For now it catches 96% of the spaghetti test images. I'm also working on detecting the "blob of death".

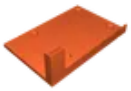
Commint next :

- Settings & source code
- Better mount & lid

All images are renders made in Blender from the CAD: my three FreeCAD parts, Prusa's official CORE One CAD

Model files

body.stl



mount.stl

lid.stl

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