

DIY? Raspberry Pi!

by

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Background

- Left CIT with a BSc in Analytical Chemistry
- Worked in various labs
- Building work
- Tool hire
- Coring and chasing
- Small engine repair
- Back to CIT for the first year of the H. Dip in Cloud Computing
- Software QE at EMC

What we'll cover tonight

- What a Raspberry Pi is
- Installing an OS (Raspbian)
- Enabling SSH & Wifi before booting
- Enable & connect via a Serial connection
- Create a bridge between 2 ethernet connections at boot
- Start tcpdump to capture bridge traffic at boot
- Test by capturing traffic routed through the bridge

What is a Raspberry Pi?

- A single board computer, with ARM architecture
- Intended to make learning about computing & programming cheap & accessible
- Just needs screen, keyboard/mouse and SD card to get started
- Multiple models A (1, 1+), B(1, 1+, 2, 2 (1.2), 3, 3+), Compute (1, 3, 3L), Zero (1.2, 1.3, W) .

Where can I get one?

- Lots of places, official list of resellers at:
 - <https://www.raspberrypi.org/products/#buy-now-modal>
 - Costs about 35 Euro
 - Also sold in kits with all that you need to get started.

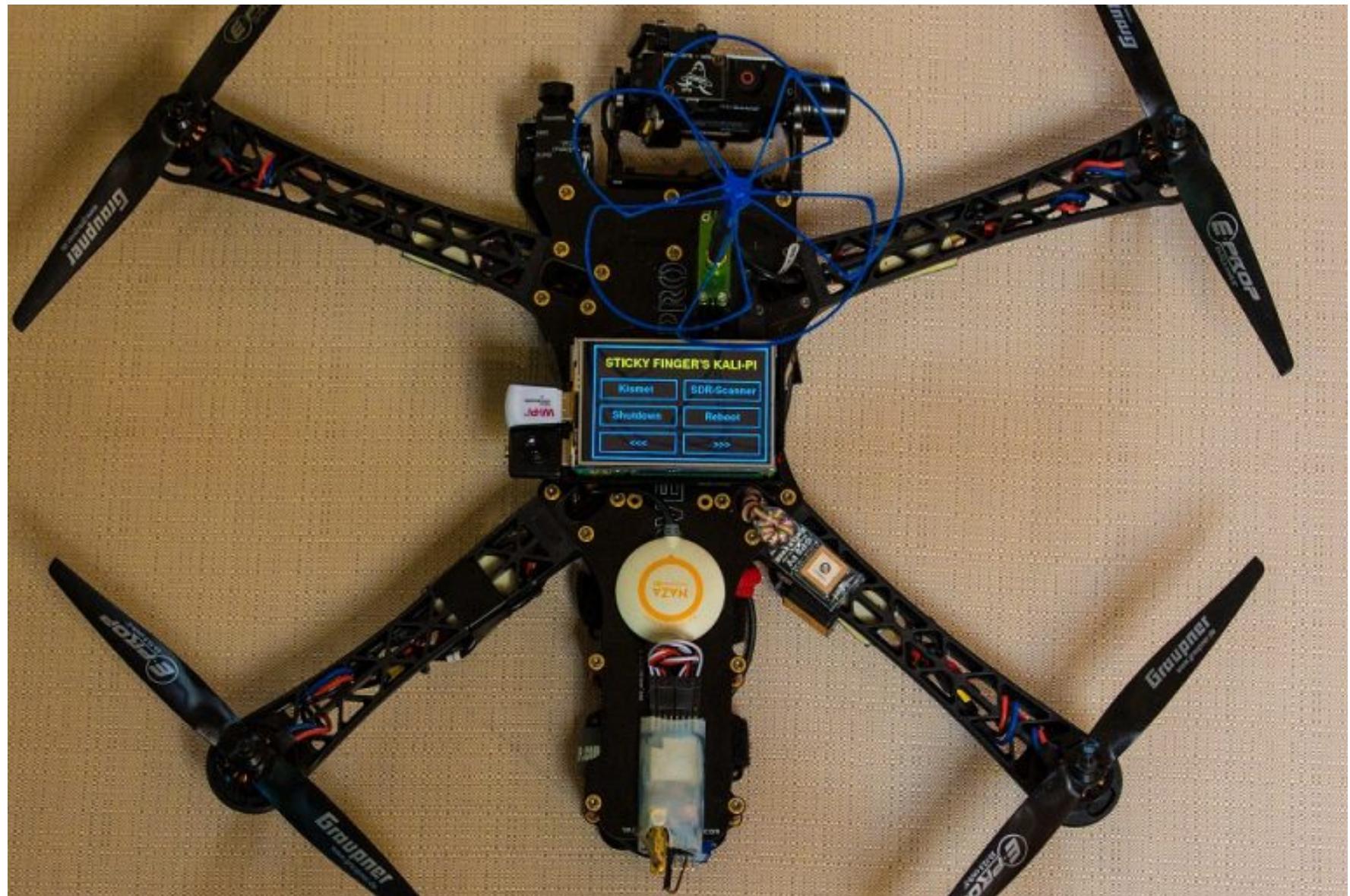
What can you use a Pi for?

- Absolutely anything at all. Projects include:
 - Super computer clusters
 - Drone mounted Kali pentesting rigs
 - Automated pet recognition
 - Robots of multiple types
 - And much, much more

Supercomputer cluster



Drone mounted touch screen Kali



AI cat recognition

This engineer built a facial recognition gadget to notify him when his cat wants to come inside



Rob Price [✉](#) [🐦](#)

Feb. 27, 2018, 2:15 PM [🔥 1,975](#)

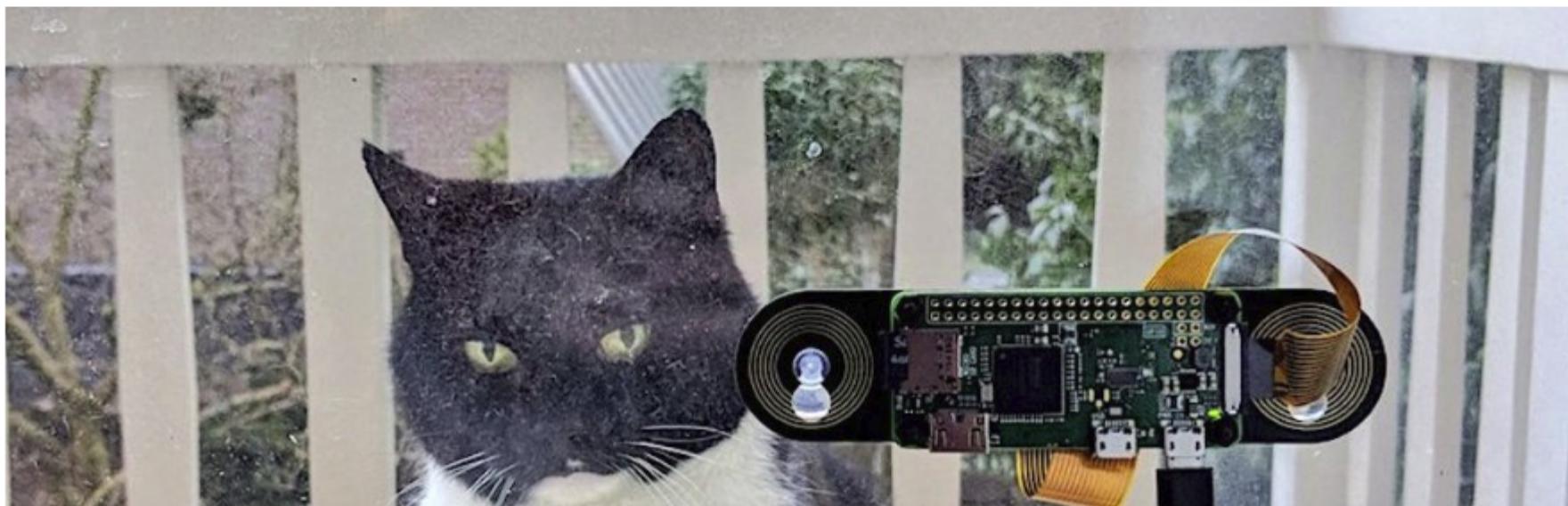
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Pi packet sniffer ingredients

- Raspberry Pi 3B+
- Micro SD card
- Power supply (Plug-in or battery)
- Operation System (Raspbian)
- USB to Ethernet adapter
- Also need
 - Laptop/PC with SD card reader
 - Optional – Case, TTL cable, ethernet cables

Why an inline packet sniffer?

- Cheap & easy to assemble
- Can be used to capture NW traffic from IoT/other devices
- Can be used if you cannot capture on your router
- Data exfiltration
- Battery power to capture in awkward areas

Meet Raspberry Pi 3 Model B+

