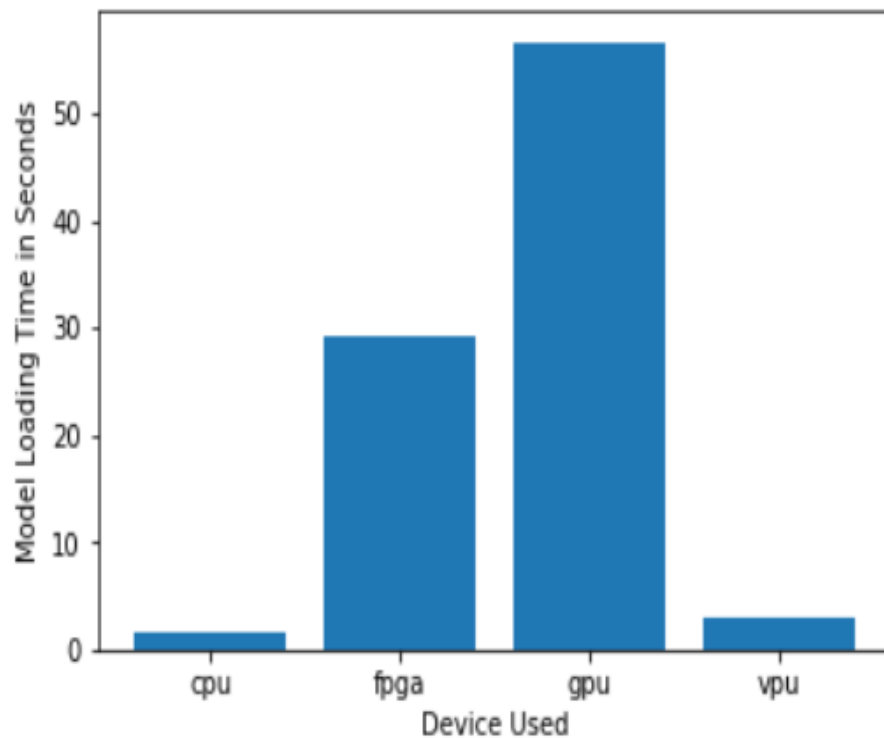
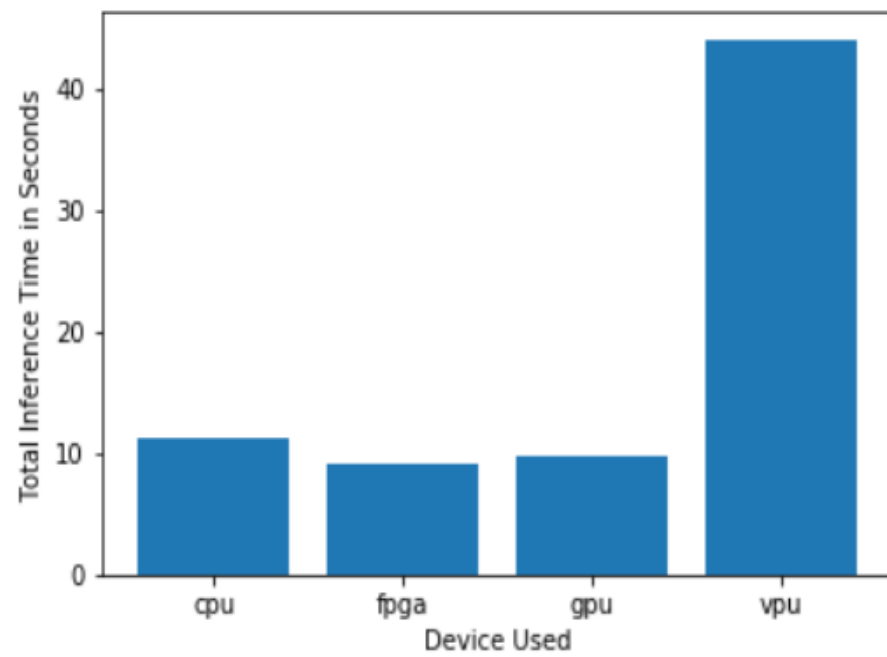
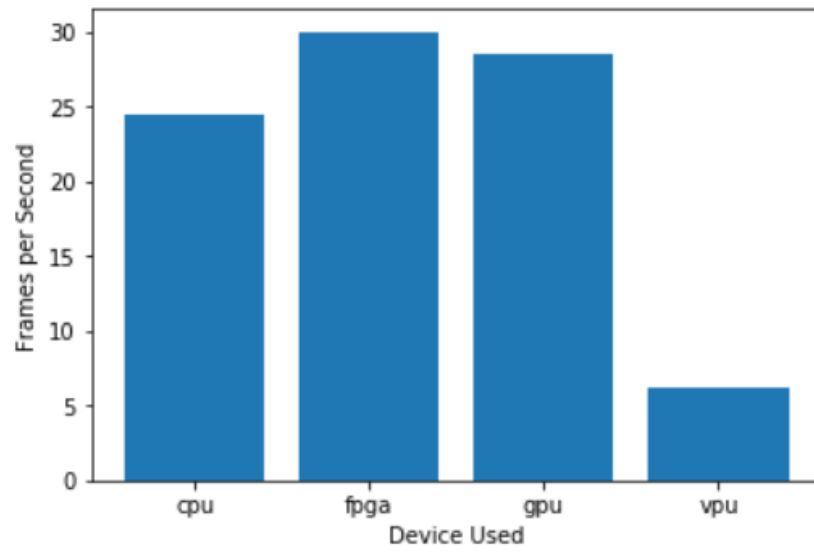


Write Up

1. Manufacturing Scenario: FPGA

Client requirements	Device meets
Flexibility in being reprogrammed to spot the flaws in the chips on the production line	FPGA have the advancement of being able to be reprogrammed to do other tasks
The client needs a hardware that can process the inference on the device at 30-35 fps speed and the inference should be run 5 times per second	Because of the FPGAs structure and its ability to be divided into sections, this gives it the ability to run multiple tasks in parallel which makes it more efficient than the rest of the devices.
The client wants to install a hardware that works 24/7	Clearly FPGA is the best to do this since it's so robust.
The client wants to install a hardware that lasts for long	Lifetime for FPGA is > 10-15 years

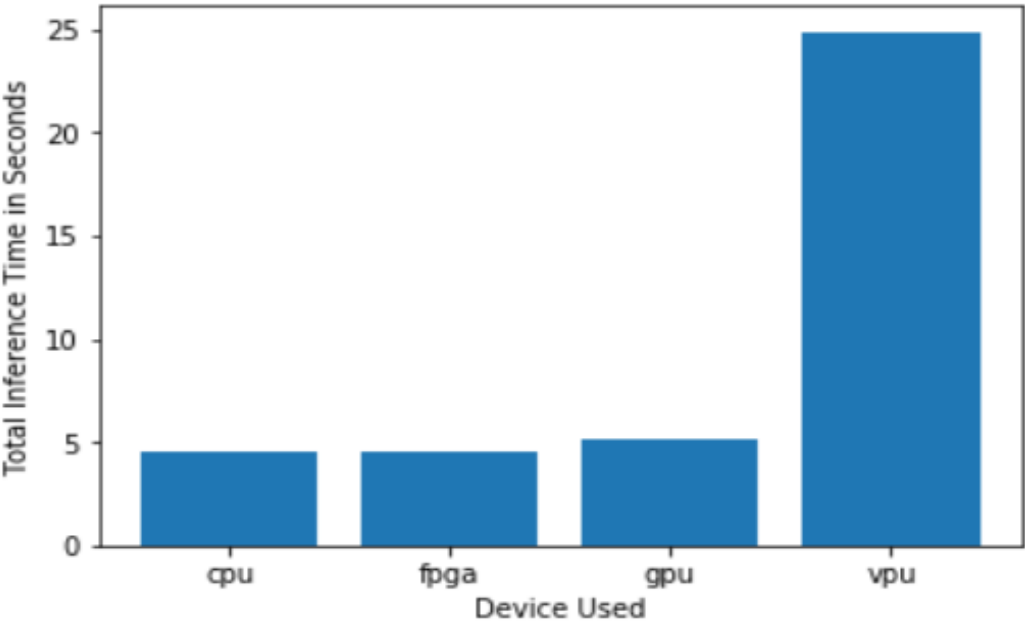


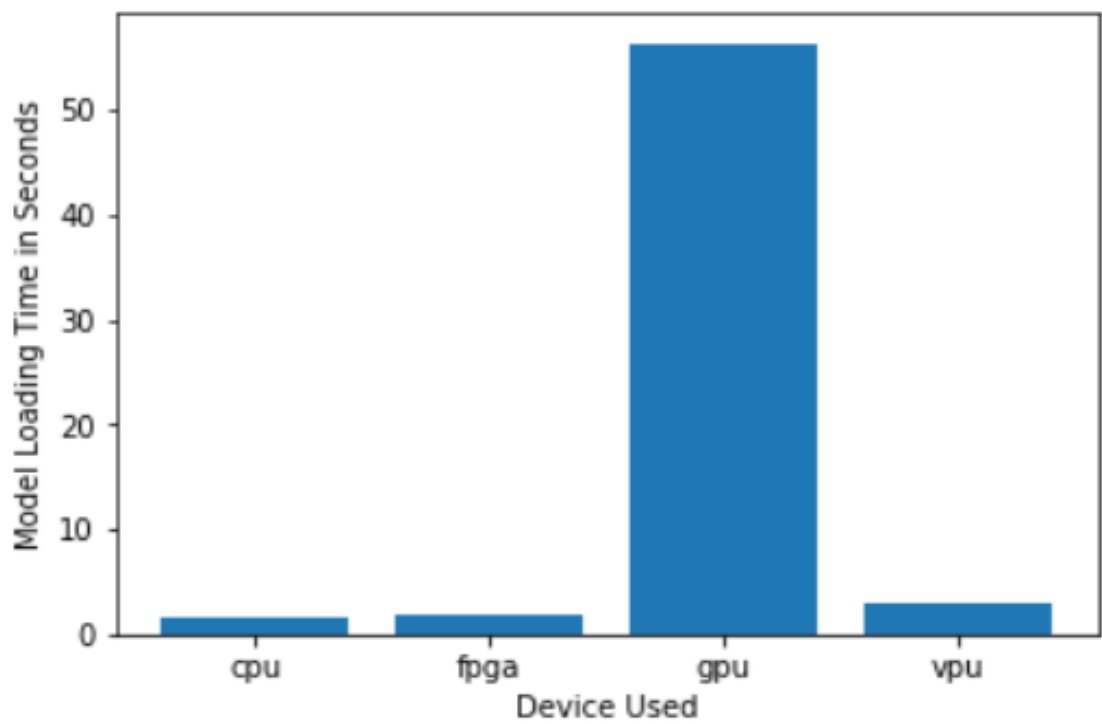
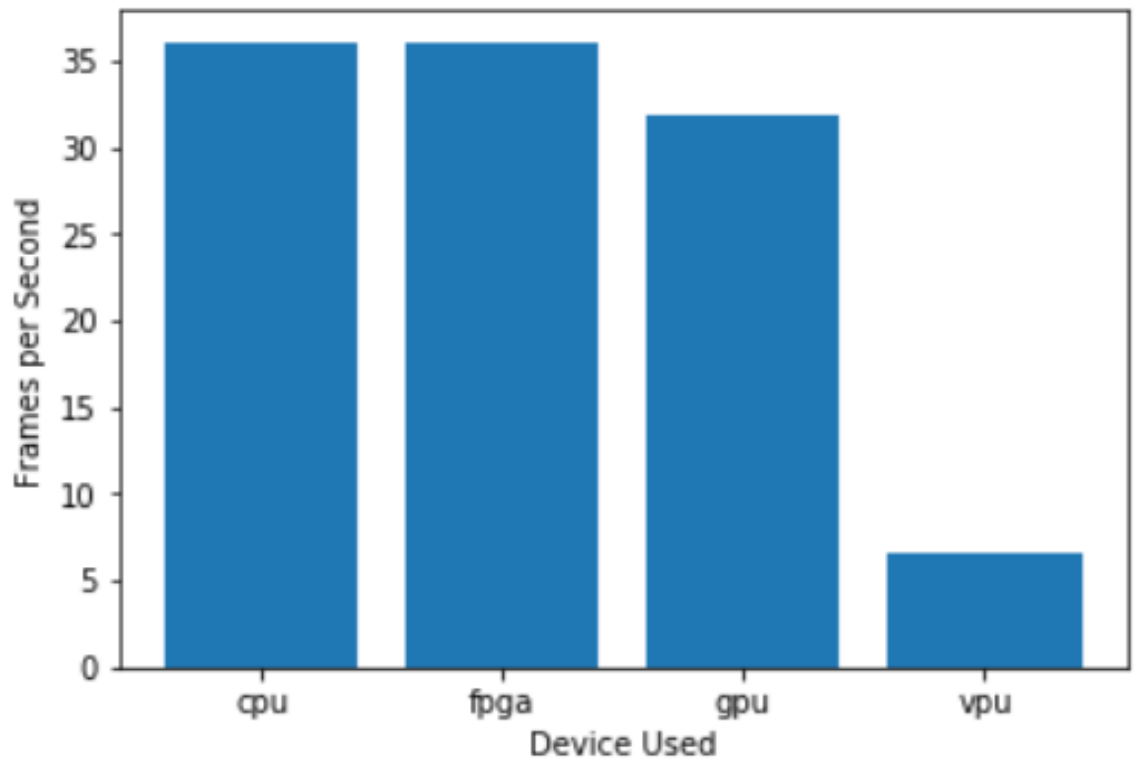


FPGA has the least inference time, the greatest FPS speed , and considerable loading time. Since the budget is not a problem, then FPGA is the best choice!

2. Retail Scenario : CPU

Client requirements and meets
Budget : the client cares about budget since his revenue is 1.1% and he pays mush fo his employees. So, replacing the existent CPUs will cost him alot.
The client wants to save as much as possible for electric bills, so CPU is compatible to this since its power consumption is considerably low
The computation expenses: the core i7 CPUs aren't doing much computations at the moment, so they can be used towards inference to count people at line with no need to buy new ones.

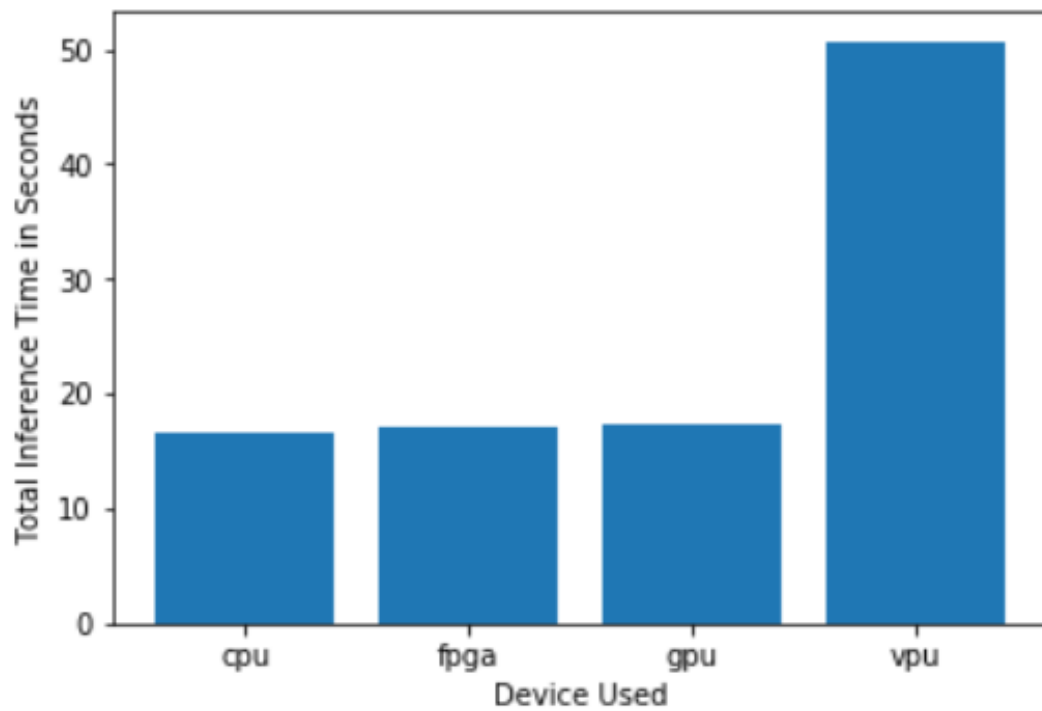


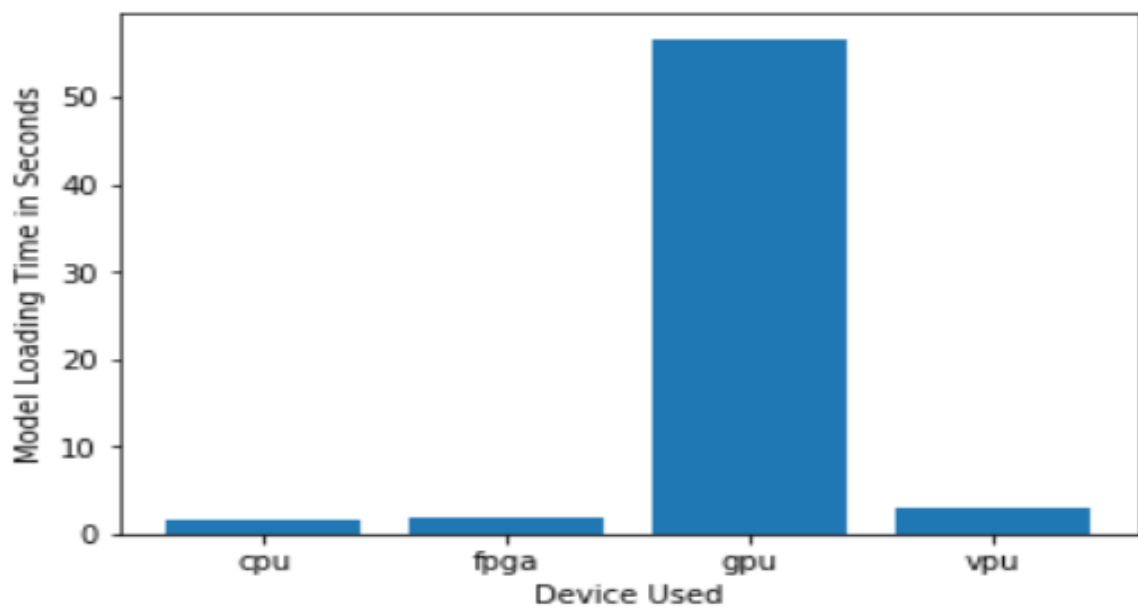
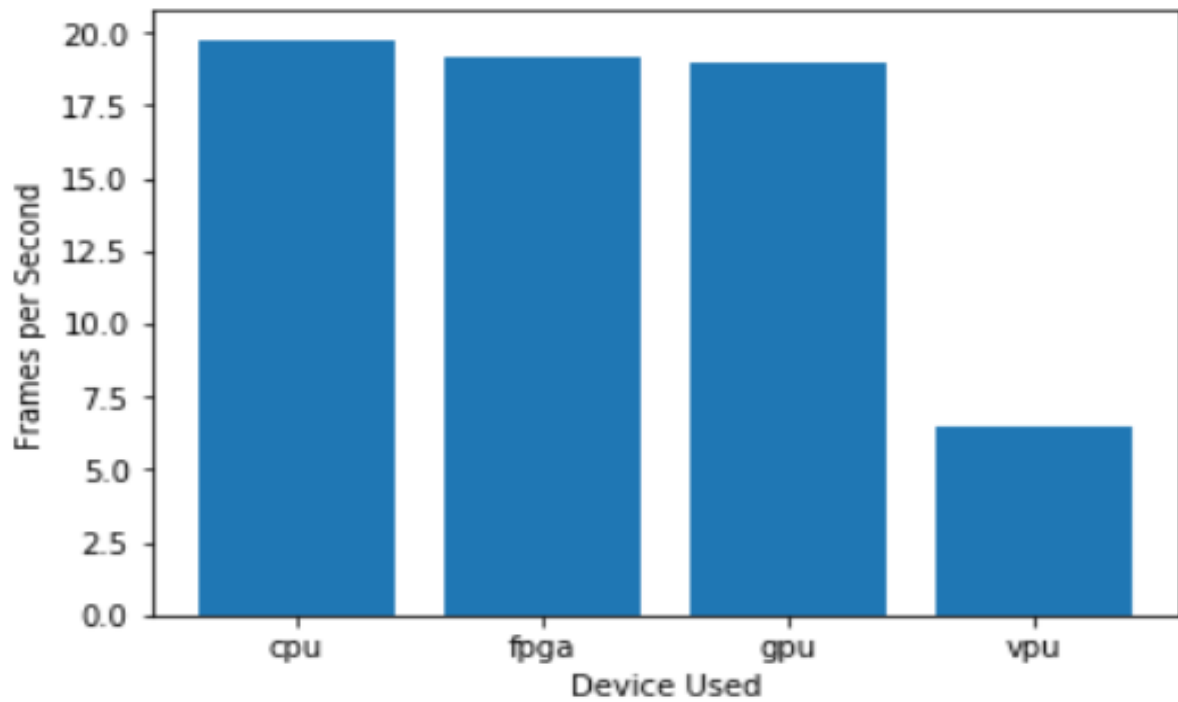


We notice that CPU has low latency, low loading time , low inference timw and high FPS speed. So, CPU is the right device.

3. Transportation Situation : GPU

Clinet needs	Device meets
Budget : the clinet doesn't want to spend more than 300 \$ while having a good performance	NCS2 costs < 100\$ and gives high performance
The client wants to save on hardware and future power consumption	NCS2 stick is designed to work on very low power ~ 1 W





While GPU has a low inference time and high FPS while meeting the budget requirement, then GPU is the best choice.