Ray - Heikki Pulli

1

Authors aim to create distributed cluster-based AI/ML framework Ray. Ray framework is supposed to be quite performant and dynamic in any architecture and with multiple different devices, ie. CPUs and GPUs. It's supposed to do all the required steps of creating AI/ML applications, simulation, training and serving of the applications.

2

a)

```
cloud-and-edge-computing on  master at ☸  minikube (default)
→ lscpu
Architecture:            x86_64
  CPU op-mode(s):        32-bit, 64-bit
  Address sizes:         39 bits physical, 48 bits virtual
  Byte Order:            Little Endian
CPU(s):                  8
  On-line CPU(s) list:   0-7
Vendor ID:               GenuineIntel
  Model name:            Intel(R) Core(TM) i7-4770K CPU @ 3.50GHz
    CPU family:          6
    Model:               60
    Thread(s) per core:  2
    Core(s) per socket:  4
    Socket(s):           1
    Stepping:            3
    CPU(s) scaling MHz:  85%
    CPU max MHz:         3900,0000
    CPU min MHz:         800,0000
```

Intel website of the CPU

https://www.intel.com/content/www/us/en/products/sku/75123/intel-core-i74770k-processor-8m-cache-up-to-3-90-ghz/specifications.html

b)

```
cloud-and-edge-computing on  master [?] at ☸  minikube (default)
➜ python week6/thread_test.py
Min time: 6.031990051269531e-05s
Max time: 0.0002415180206298828s
Avg time: 6.842136383056641e-05s
STD: 1.3042354032493471e-05s

cloud-and-edge-computing on  master [?] at ☸  minikube (default)
➜ python week6/thread_test.py
Min time: 6.0558319091796875e-05s
Max time: 0.0002300739288330078s
Avg time: 7.050871849060059e-05s
STD: 1.4577393854124811e-05s

cloud-and-edge-computing on  master [?] at ☸  minikube (default)
➜ python week6/thread_test.py
Min time: 5.888938903808594e-05s
Max time: 0.0002143383026123047s
Avg time: 6.678366661071777e-05s
STD: 1.076813145323223e-05s

cloud-and-edge-computing on  master [?] at ☸  minikube (default)
➜
```

Source code

https://github.com/HegePI/cloud-and-edge-computing/blob/master/week6/thread_test.py

c)

```
cloud-and-edge-computing on  master [!?] at ☸  minikube (default)
➜ python week6/function_test.py
Min time: 7.152557373046875e-06s
Max time: 5.435943603515625e-05s
Avg time: 7.850408554077148e-06s
STD: 1.9830875898409870e-06s

cloud-and-edge-computing on  master [!?] at ☸  minikube (default)
➜ python week6/function_test.py
Min time: 6.198883056640625e-06s
Max time: 4.100799560546875e-05s
Avg time: 6.826877593994141e-06s
STD: 1.1591666127620356e-06s

cloud-and-edge-computing on  master [!?] at ☸  minikube (default)
➜ python week6/function_test.py
Min time: 5.7220458984375e-06s
Max time: 5.793571472167969e-05s
Avg time: 6.788730621337891e-06s
STD: 2.385226547057827e-06s

cloud-and-edge-computing on  master [!?] at ☸  minikube (default)
➜
```

Source code

https://github.com/HegePI/cloud-and-edge-computing/blob/master/week6/function_test.py

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