1. The difference between the between the EC2 instances and the common used instances

That it is much cheaper but it does not have friendly UI and it might halts before completing running

And I used “t2.micro” instance cause it is cheap and enough for what I want and it is eligible in the free tier

1. I created the lambda function and tried to run it I got an access denial error so I went to IAM to give the role the Sagemaker full access to be able to invoke the endpoint from inside the lambda

1. Aws provide a lot of feature easy to use to control your others access as (IAM) by adjusting AWS roles and policies and to make sure that your projects are secured for example if you work with other you can control their access to the different features inside the AWS and you can also create Virtual private cloud (VPC) and if you work alone on your private account you will be able to check sagemaker logs and monitors
2. I set up **auto-scaling** to be able to expand to handle high amount of requests

* Choose the maximum instance count
* Choose Scale-in cool down time
* Choose Scale-out cool down time

**Concurrency:** the capability of Lambda functions to expand to use more computing resources to respond to more simultaneous requests simultaneously, there are two types of it **Reserved concurrency:** a set amount of computing resources that are reserved to be used for a Lambda function's concurrency and

**Provisioned concurrency:** computing resources that are available to be used immediately for requests to a Lambda function

* Open configuration section in lambda function
* Select concurrency
* Select the version tab to create a new version of the function
* Select the reserved and provisioned wanted

1. Screenshots:

* Adding permissions for lambda function role

A screenshot of a computer

Description automatically generated

* Aws sagemaker instance

A screenshot of a computer

Description automatically generated

* EC2 instance

A screenshot of a computer

Description automatically generated

* training on EC2

A screenshot of a computer

Description automatically generated

* S3 bucket that contains the data we need

A screenshot of a computer

Description automatically generated

* The deployed endpoint

A screenshot of a computer

Description automatically generated

* The lambda response

"body": "[[-11.872557640075684, -5.103195667266846, -2.0581912994384766, -0.6765422821044922, -4.736608028411865, -8.832680702209473, -3.1930432319641113, -1.8651413917541504, -8.29175090789795, -0.05570417270064354, -0.34524184465408325, -6.967048168182373, -4.060073375701904, 1.3750969171524048, -7.720773220062256, -5.193246364593506, -10.616508483886719, -1.3687608242034912, -5.286077499389648, 1.384071946144104, -6.38483190536499, -6.17405366897583, -15.916419982910156, -9.157458305358887, -4.381354331970215, -13.712090492248535, -5.685349464416504, -6.664035797119141, -9.770329475402832, -5.565783977508545, -5.056652069091797, -7.993410110473633, -11.347845077514648, -4.6929121017456055, -12.580265998840332, -9.679305076599121, -9.168667793273926, -6.566637992858887, -0.66301429271698, -7.835221767425537, -3.2801365852355957, -6.223822116851807, 1.3439292907714844, -4.864818572998047, -4.670285224914551, -13.667680740356445, -0.9922974109649658, -0.13540992140769958, -4.594471454620361, -4.29119348526001, -8.656429290771484, -11.711063385009766, -13.131575584411621, -6.889475345611572, -8.608595848083496, -1.0846548080444336, -4.991755485534668, -8.189168930053711, -5.306618690490723, -4.211451530456543, -11.802265167236328, -7.874431133270264, -14.303807258605957, -13.63339900970459, -6.7266411781311035, -16.329792022705078, -1.7179069519042969, -6.626486778259277, -6.702004909515381, 0.2233022153377533, 0.7782796025276184, -9.780932426452637, -7.173649311065674, -6.179896354675293, -4.461030006408691, -4.35173225402832, -14.048733711242676, -3.119342088699341, -9.43277359008789, -4.979170799255371, 1.7942283153533936, -11.027436256408691, -3.17726993560791, -2.146296262741089, -6.845037460327148, -9.562860488891602, -1.352925181388855, -11.738748550415039, -4.768908500671387, -0.987280547618866, -14.609461784362793, -11.036104202270508, -7.841283321380615, -9.771728515625, -7.394858360290527, -1.680294394493103, -6.715157508850098, -9.033116340637207, -10.36294174194336, -8.680251121520996, -13.97488784790039, -0.4159824848175049, -4.890625476837158, -6.135818958282471, -10.63101863861084, -12.70419979095459, -4.066120624542236, -1.2155030965805054, -2.794792413711548, -3.927265167236328, -5.221864700317383, -2.865320920944214, -10.116599082946777, -6.812219142913818, -9.040125846862793, -6.7219085693359375, -14.178886413574219, -6.840712547302246, -6.300049781799316, 0.4437900483608246, -0.8863228559494019, -7.084904670715332, -8.135369300842285, -8.178704261779785, -10.927069664001465, -10.820563316345215, -4.527963161468506, -0.5398283004760742, -9.68557071685791, -10.647812843322754, -11.919408798217773, -2.900285243988037, -10.230098724365234]]"

