XPUCUBE.COM

XPU CASE STUDY

Cognitive Neuroscience Research & AI Center gets to manage GPU resources and speed up work with an AI Platform.

OBJECTIVES

- A simple & effective AI Platform
- Dramatically improve current GPUs' utilization.
- Run many workloads on a GPU simultaneously.
- Allocate resources dynamically.
- Manage resources and schedule workloads automatically.

"XPU and OpenPAI combination is our lifesaver!

Two powerhouses combined gave us a simple and user-friendly AI platform that greatly simplifies management, democratizes access to GPU resources, and significantly utilizes our GPUs."

DR. JUN LIEU

Chief Scientist at Beijing Cognitive Neuroscience Research & AI Center

CHALLENGES

Beijing cognitive neuroscience research & AI center combines the study of brain and cognitive science and artificial intelligence to solve a broad range of problems. It does so by developing AI models to analyze big data in neuroscience.

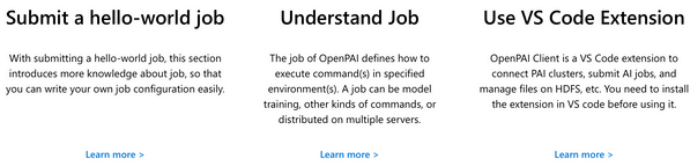
Lacking an effective AI infrastructure can be costly, and because of that, the Center has been struggling with very low productivity; teams can't access resources when they want to, results take "forever" to produce, and they even had to manage an Excel spreadsheet to track who gets to use the GPUs next...

As Dr. Lieu puts it: "**As researchers, our goal is to make breakthroughs in scientific studies, not to develop or deal with IT. We want something that simply does what we want - submit jobs, see the results, and tune the parameters, that's it.**"

SOLUTIONS

The Research Center's challenges share among many organizations and research institutions. There is no easy-to-use AI platform to help them run the jobs effectively and manage the computing resources automatically.

XPU integrated with an open AI platform developed by Microsoft - OpenPAI, and met the challenges.

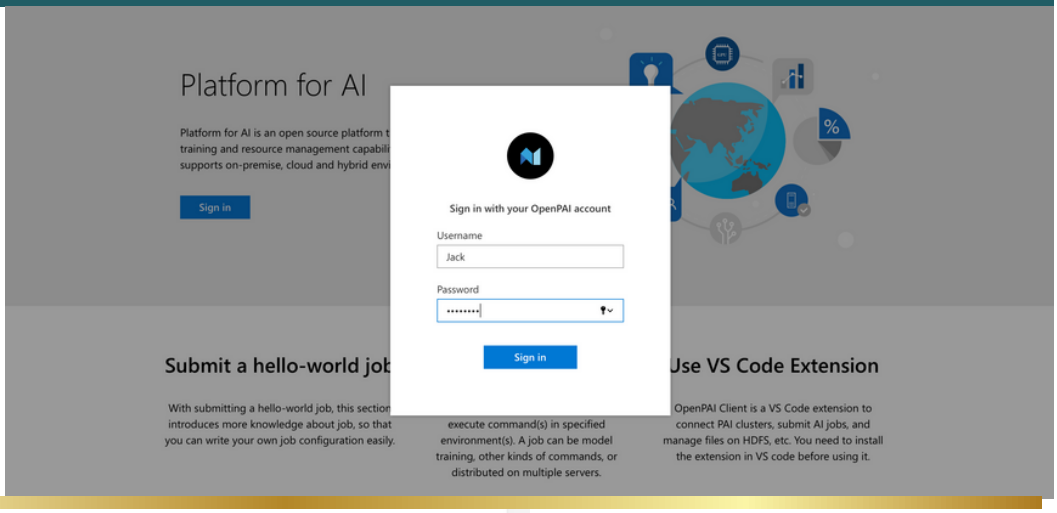


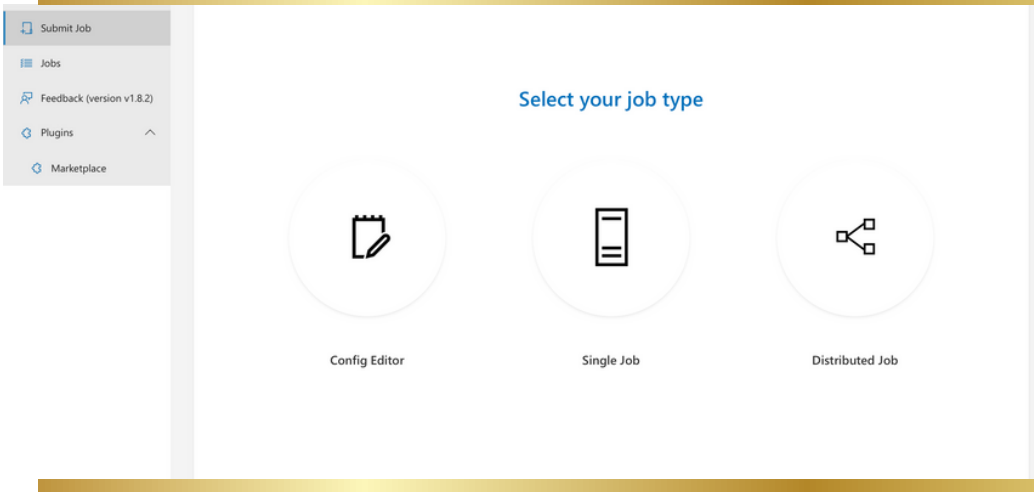
XPUCUBE.COM

XPU CASE STUDY

Cognitive Neuroscience Research & AI Center gets to manage GPU resources and speed up work with an AI Platform.

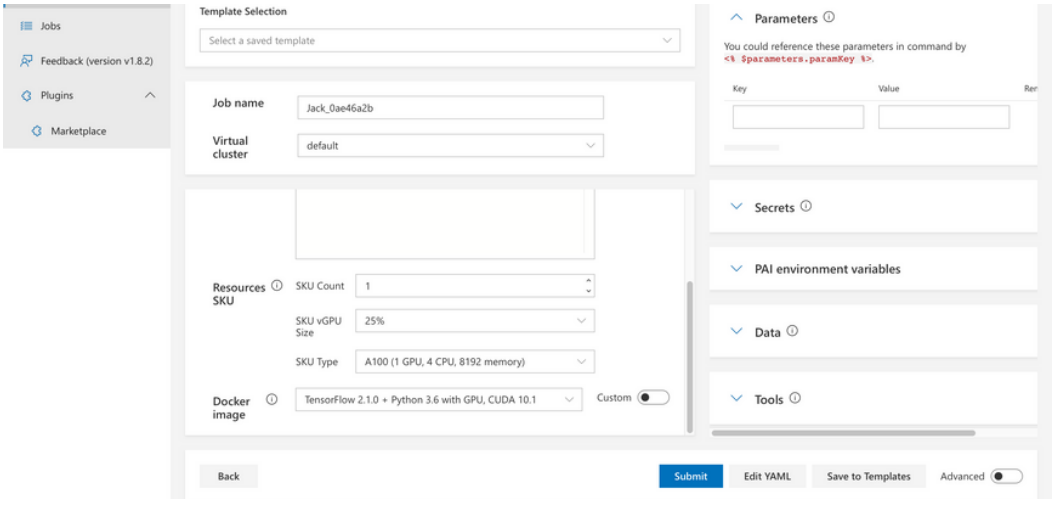
First, OpenPAI provides a simple and user-friendly interface; you can remotely login from anywhere and submit your jobs.





Next, submitting jobs is only a click away; you can choose either "Single Job" or "Distributed Job" you want to run.

You can then choose a complete suite of options, including selecting a Docker image, specifying computing resources, and many more.

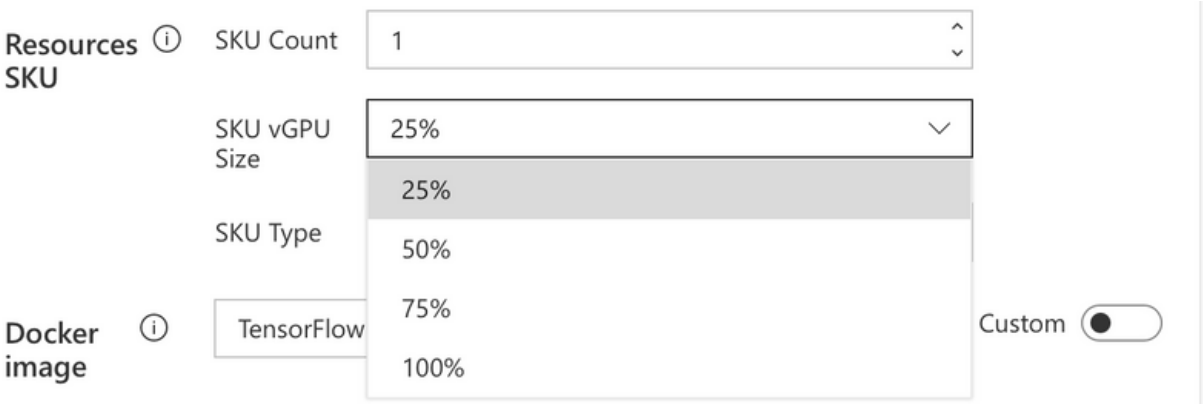


XPUCUBE.COM

XPU CASE STUDY

Cognitive Neuroscience Research & AI Center gets to manage GPU resources and speed up work with an AI Platform.

XPU redefined how GPU resources are accessed by integrating impeccably with OpenPAI; when you select the computing resources, you can choose only a portion of the GPU for the job. XPU takes care of the "splitting - virtualization" for them automatically, dynamically, and on demand. GPU is fully utilized in this fashion, and resource scheduling is automatically handled by OpenPAI's powerful "HiveD" scheduler; you don't have to worry about anything.



When the job finishes, a simple click gets the results. You can either export it or tune the parameters as you wish. And the GPU resources will be returned to the pool automatically as well.