

# **NEBULA AI INNOVATION** HIGHLIGHT



#### **COMPANY OVERVIEW**

Nebula AI is a cloud solutions provider that delivers a highperformance artificial intelligence (AI) and machine learning (ML) cloud computing experience that better organizes cloud resources. Nebula Al offers different cloud computing solutions to fit their users' specific needs, including public cloud, edge computing/private cloud and hybrid cloud solutions based on advanced distributed ledger technology (DLT).

LOCATION: MONTREAL, QC

## **TECHNOLOGY**



## **Data Centre and Cloud**



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## THE MARKET PITFALL

Current cloud computing solutions fall short of expectations. Users want costs to be reasonable and need their resources available on demand. However, today's public cloud resources aren't just costly, but also have long wait times - not meeting user expectations at all. Private cloud operators also require technical expertise and sufficient resources and funds to operate and maintain their cloud efficiently in real-time.

## MODERNIZING CLOUD RESOURCE ALLOCATION

To serve users, enterprises, and cloud providers, Nebula Al created Data Centre Management (DCM). This platform dramatically improves GPU resource allocation through AI and ML computing techniques, that speed up wait times and are more cost efficient. On top of this, DCM can route work to alternate data centres should resources become depleted at the current one. With this scheduling system, DCM reduces ML training costs, shortens deployment time and eliminates performance bottlenecks from GPU clusters. Nebula AI claims that DCM can increase GPU utilization by 70%.

#### **MULTI DATA CENTRE TESTING**

Using the CENGN Testbed and its multiple data centres, Nebula AI validated that their platform could support container transfers data commercial rate, six inter Date Centre Transfers Per Minute (DC TPM). Nebula AI also validated the functionality of their RAFT consensus protocol; ensuring users can both manually dynamically transfer between data centres to and use resources. The team identified performance bottlenecks and demonstrated its DCM delivers the needed functionality to support multiple data centre deployments.

"The tests helped us evaluate key factors influencing our system's performance. **They also** revealed a potential performance bottle neck in software design."

> **Charles** Cao CEO. Nebula Al