

# OOKAMI PROJECT APPLICATION

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Date: 17/03/2021

Project Title: Exploration

Usage:

Testbed

Production

Principal Investigator:

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**Usage Description:**

The project is mainly for code porting, testing and benchmarking purpose. The code available are mainly for deep learning and quantum computing related projects: 1) large scale Bayesian neural networks for sea-level temperature prediction. 2) spiking neural network simulations. 3) quantum computing simulations. We will first try to compile and port the code to ARM architecture and test the code on a single node. Then, we plan to implement the distributed neural network training and simulations. Benchmarking the speedup and scaling of the code.

**Computational Resources:**

Total node hours per year: **15000** node hours shared among team members

Size (nodes) and duration (hours) for a typical batch job: **1 node 2 hours** for typical job for porting and **1-8 nodes 2 hours** for scaling studies.

Disk space (home, project, scratch): **500 GB** per user home, **2 TB** for project.

**Personnel Resources:**

N / A

**Required software:**

PyTorch, Nengo, Conda, [PennyLane](#), Julia Language

**If your research is supported by US federal agencies:**

Agency: Department of Energy

Grant number(s): DE-SC-0012704

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