# Automatic generated report CNET0030.

*Author: Palomo Alonso, Alberto*
*Date of submission: October 19, 2022.*

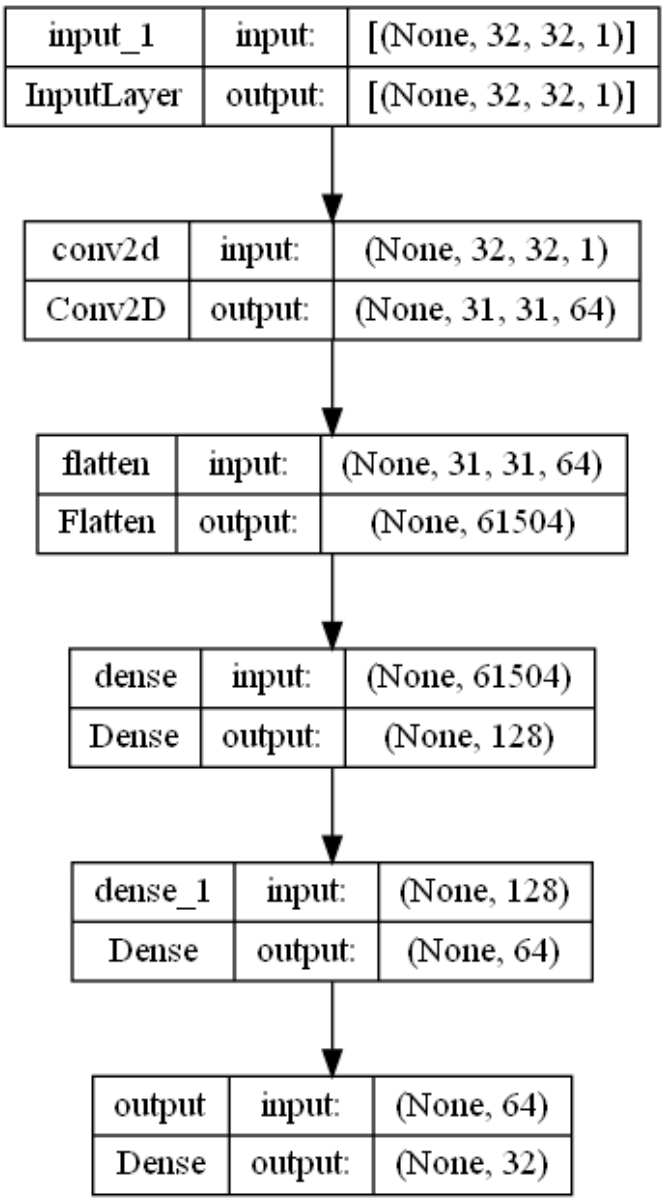


Fig. 1: Model visualization

# 1 Model

The model has been compiled successfully with the following parameters:

| Layer | Shape | Attributes |
|---|---|---|
| Conv2D | (64, 2) | |
| Flatten | (None,) | |
| Dense | (128,) | |
| Dense | (64,) | |

Tab. 1: Model architecture and attributes.

Model summary

```
Model: "model_0"
_________________________________________________________________
 Layer type                Output Shape              Param #
=================================================================
 input_1 InputLayer        [None, 32, 32, 1]         0

 conv2d Conv2D             None, 31, 31, 64          320

 flatten Flatten           None, 61504               0

 dense Dense               None, 128                 7872640

 dense_1 Dense             None, 64                  8256

 output Dense              None, 32                  2080

=================================================================
Total params: 7,883,296
Trainable params: 7,883,296
Non-trainable params: 0
_________________________________________________________________
```

## 1.1 Compiler

- *Problem specifications.* The input shape mesh is *(32, 32, 1)*, while the output shape is (*32*).
- *Compiling options.* The model makes use of the *mean squared error* loss function and the *adam* optimizer. The metrics taken into account are accuracy and loss.
- *Devices.* The model was trained with 1GPUs.

# 2 Database

The database **32k 32t 04w** was generated with *hypertrain*. The training - validation - test distribution is *'train': 70, 'validation': 20, 'test': 10* and the total size of the database

is *(22938, 6554, 3276)*.

## 3 Performance

The obtained learning curve is shown below. With **maxloss**: 0.1165, and **minloss**: 0.0524.

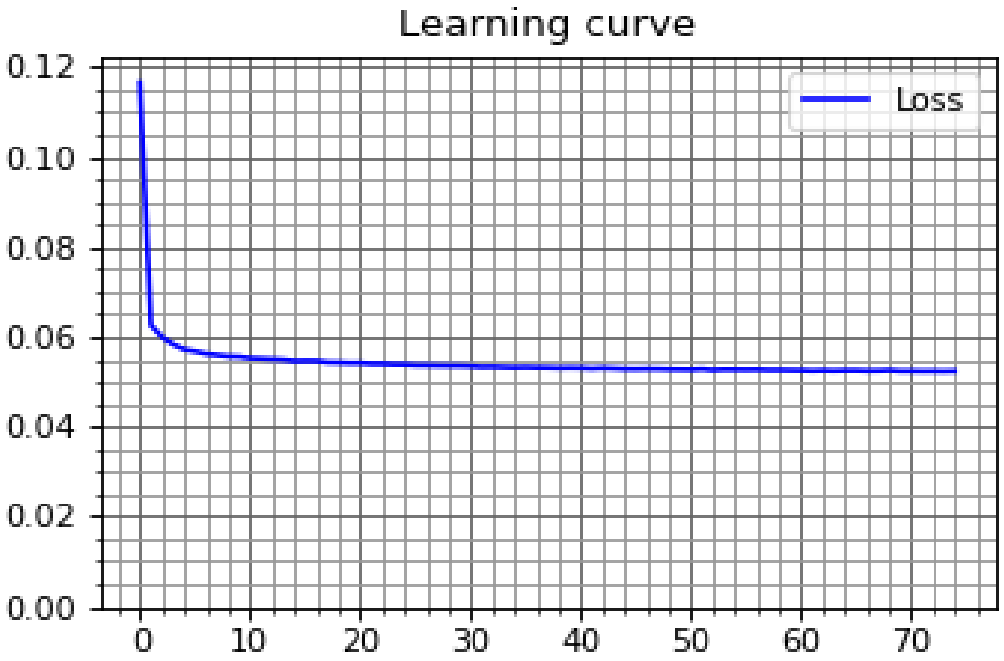


Fig. 2: Learning curve with the introduced database.