Machine learning model research

# Neuroevolution (unplanned)

Can be used when a score is provided rather than a incorrect or correct value score. Apparently this can be applied to the LSTM

# LSTM (unimplemented)

LSTM’s are a type of reccurent neural networks, however avoid the gradient vanishing problem with the aid of internal

# LSTM Alternatives

## Modular Memory Units (unplanned)

A [paper](http://jenjenchung.github.io/anthropomorphic/Papers/Khadka2018neuroevolution.pdf) describes the benefits of MMU’s due to the external position of the memory compared to LSTM’s memory being held within the cell.

# Global inputs

Include inputs that provide information that is constant throughout the PCB. This would include board size, board shape, number of layers.

# Loss Function

## Mean Rounding Loss (unimplemented)

A dense NN provides floating point values but the layer variables need to be integers