

A tensorflow backend to SpiNNaker

More precisely: a keras backend to SpiNNaker

Jonas Fassbender

Supervisors:

Alan Stokes, Kevin Stratford, Caoimhín Laoide-Kemp

What is SpiNNaker?

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The project's website [Spi20] states:

[SpiNNaker is] a platform for high-performance massively parallel [and energy efficient] processing appropriate for the simulation of large-scale [spiking] neural networks [...]

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- ▶ We'll run out of available computation (and energy) eventually
- ▶ Massively parallel, energy efficient and scalable systems are optimal for training NNs

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- ▶ “Easiest” way to add new tensorflow backend? XLA (<https://www.tensorflow.org/xla>)
- ▶ Instead: backend for keras (<https://keras.io>)
- ▶ Using high level conceptual graph (the actual layers of the NN) instead of low level computational graph of tensorflow

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- ▶ Both together? ...

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- ▶ Taking stimulants and don't sleep for three months

References



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SpiNNaker Team.

SpiNNaker Project.

<http://apt.cs.manchester.ac.uk/projects/SpiNNaker/project/>, 2020.