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Using neural networks to calculate integrals

Nowadays we spend a lot of time for calculation n-dimensional integrals, using different methods, like Monte-Carlo and Gauss methods. Computations by these methods expend a lot of computer resources, which is leading to the problem of golden mean between computing speed and resource employment.
In our research work we studied a new method for calculation n-dimensional integrals, which is based on neural networks. We tested different schemes of constructing neural network and compared them by the following parameters:
• Learning speed
• Required memory
• Calculation of integral after learning
• Usability
Probably, in the future, method of calculation n-dimensional integrals with the help of neural networks will keep up with the other methods.

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