

# Review of: "Kolmogorov-Arnold Networks: Key Developments and Uses"

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Potential competing interests: No potential competing interests to declare.

The author of this paper ignores critical research prior to 2024 and, on that basis, provides false information to the readers. The first successful implementation of the Kolmogorov-Arnold network was done and published in 2021:

<https://www.sciencedirect.com/science/article/abs/pii/S0952197620303742>

There is also a video in a viewer-friendly format with nearly 7000 views:

The first spline implementation was also before 2024:

<https://arxiv.org/abs/2205.06376>

<https://arxiv.org/abs/2305.08194>

It is not only the missing references. The training of KAN suggested in the 2021 paper is significantly different from all other methods published at the moment. It uses Kaczmarz, not Broyden or Adam. It has a significant advantage in computational complexity and is 10 to 30 times faster than the best implementations of MLP, which are in MATLAB.

Anyone who wishes to compete with MLP should use MATLAB because it is running well-optimized code in the background and not slow Python scripts. There are freely available coding samples on OpenKAN.org that are 10 to 30 times faster than well-optimized C++ MLP code, and there are benchmarks for verification.

Opposite to this paper, the original MIT paper has references to this research. MIT researchers are not trying to hide anything from the public and reported pretty much everything known.

The research published on OpenKAN.org is a long way ahead of anything reported in this article. It shows training with different basis functions, not only splines, and it shows the switching of basis functions during training, when training is started with one set of basis functions and then switched to another while preserving obtained accuracy. It shows a stochastic or probabilistic version of KAN, where targets are random variables and it models feature-dependent distributions.

I already notified the author of this research, but she keeps ignoring it and repeating only a tiny part of this research, sliced a while ago in the MIT paper. There is nothing wrong with the MIT paper; they only published their version, and they are original researchers. Why this author repeats randomly chosen parts of other people's research is not clear.

