University of Stuttgart
Germany

Department for Stochastic Simulation
and Safety Research for Hydrosystems (LS³)

SimTech Project/Thesis

Deep-aPC-NN vs. Kolmogorov Arnold networks (KAN)

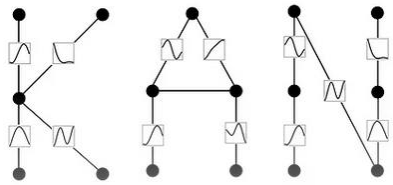
In recent months, Kolmogorov Arnold Networks (KAN) have emerged as a prominent topic of interest. They share some characteristics and fundamental ideas with our own deep-arbitrary polynomial chaos networks (deep-aPC-NN). Understanding both network types and then documenting their similarities, parallels and differences is the first part of the proposed work. In a parallel work package, available implementation should be used to asses their respective performances on sensibly selected benchmark problems. Of particular interest are comparisons of the robustness and adaptability of the two network types regarding various problem types.
If you are interested or have your own ideas on this topic, don't hesitate to contact us!

Information deep-aPC-NN

Information KAN

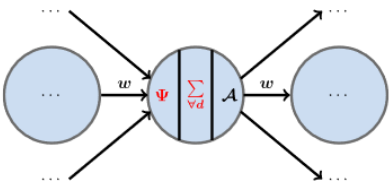
Prospective Tasks

- Familiarization with KANs and deep-aPC-NN
- Systematic comparison of the two network types
- Selection of sensible benchmarking problems
- Application of available implementations
- Discussion of the benchmarking results



General Information

- Advisor: Nils Wildt, Tim Brünnette
- Examiner: Apl. Prof. Sergey Oladyshkin (LS3)



Desirable Skills

- Interest in Neural Networks
- Programming experience

Apply now!
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