We propose a library and methods to enhance interpretability of time series foundation models

Wait a MOMENT, what do you know?
Interrogating Time Series Foundation Models

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Motivation

Foundation models are a leading paradigm in terms of **streamlined model deployment.**

This calls for the **inspection** of those models and how they are actually performing certain tasks.

Methods

The base for this research is interpretability work done in the last decade for **large vision & language models**

We adopted multiple methods to work with time series foundation models including:

- **representation analysis**
- **mechanistic interpretability**
- **machine learning explainability**

Results

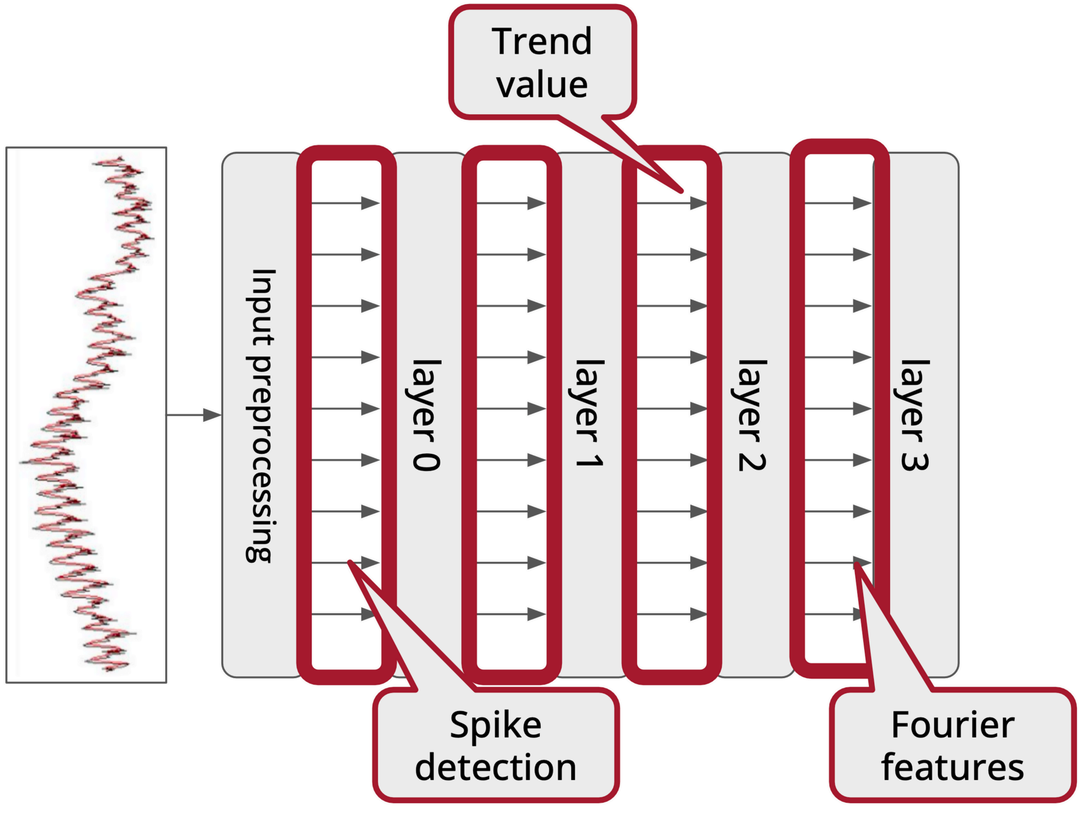
To demonstrate our methods we performed 3 studies:

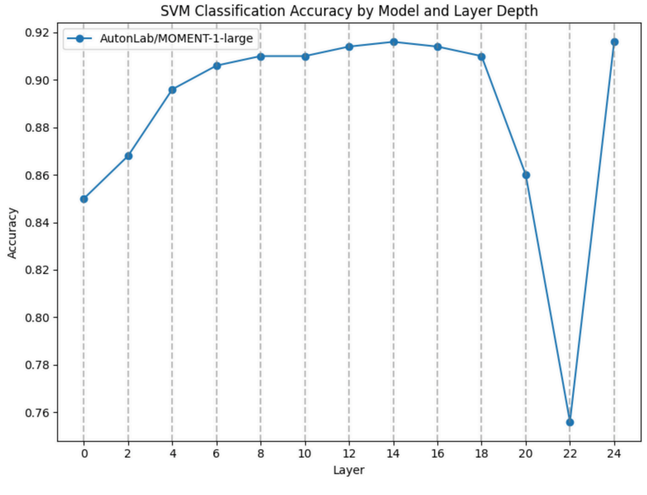
- **representation similarity**
- **task performance**
- **logit lens**

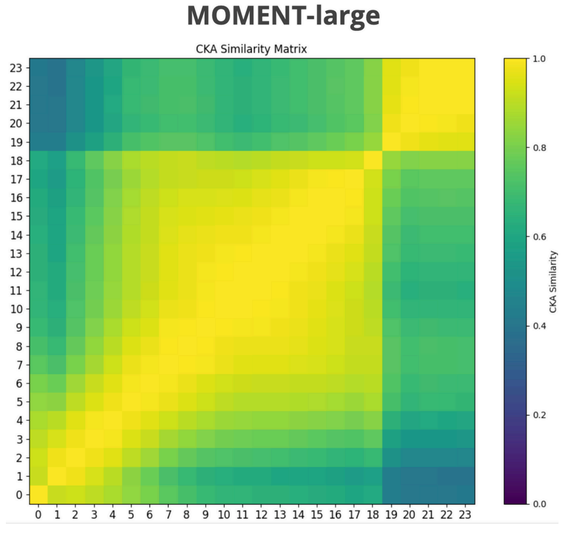
Conclusions

The interpretability of foundation models is still in its early days.

The results of our studies show that there's a lot of promise in this field and this work could help in **the wider adoption of AI models.**







Future work

Currently, the team is working on novel methods based on representation analysis which are suited also for other modalities.

Based on our research, it is possible to suggest changes in how foundation models for time series are designed.

Acknowledgements

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