DeML

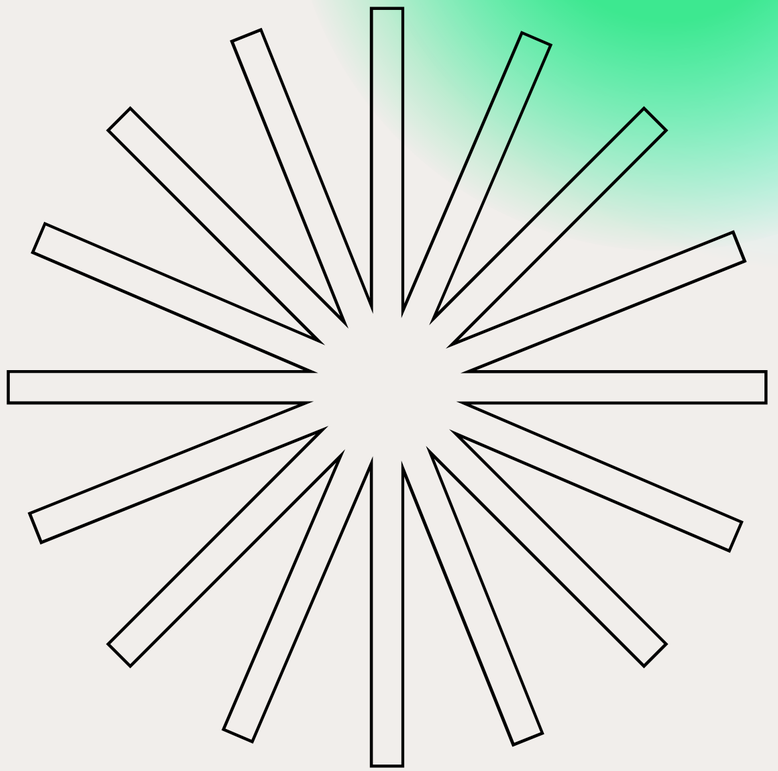
→

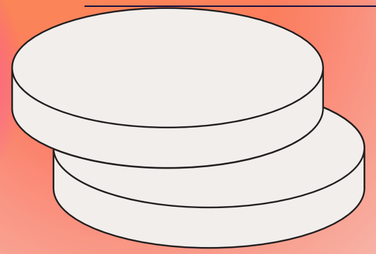
DECENTRALISED
MACHINE LEARNING ON
GOLEM

What is DeML?

DeML is a framework for working with Machine Learning models across a network of computers with ease and low computing costs.

DeML uses the concepts laid down by Federated Learning to combine the sub-step models it trains on different provider nodes into a full fleged model that can be compared to a model trained completely locally.





Motivation

Personal Computers aren't enough

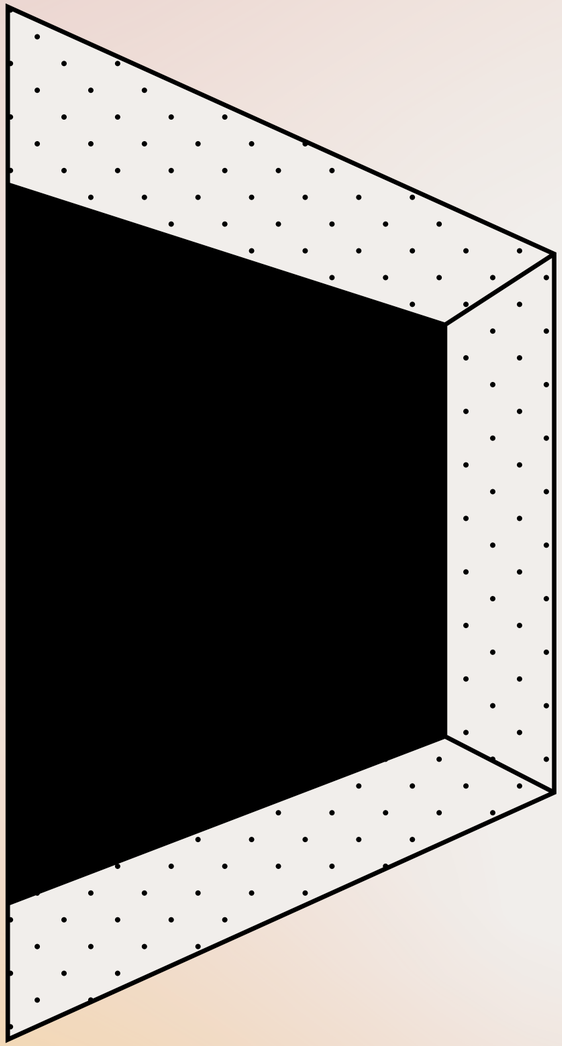
In today's ever growing need of computing resources, it is not enough for personal computers to be used as a resource for research.

Performant servers are expensive

Most currently offered VPS are extremely expensive to train ML models on for independant researchers.

Free Platforms are restricted

All free platforms currently impose some sort of restrictions that makes the user finally purchase their "premium plans"



So, How does it work?

BRIEF INTRODUCTION

Working of this product is actually quite simple!
The user defines their own ML model, a data loader function for the providers and for their own testing, and adds in the specifications of their training.
That's it!

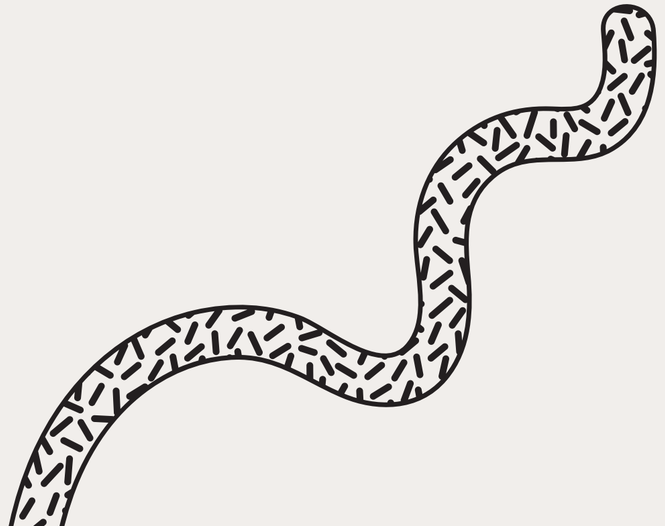
Limitations

DeML is meant to be a prototype for now,
and has certain set of limitations

1. No connectivity means the data has to be loaded in the VM.
2. Executor limit of 30 minutes mean complex models cannot be yet trained.
3. GPUs are not yet supported for CNNs or other Neural networks

FUTURE SCOPE

1. Build a UI on top of the current terminal-only system.
2. Add support to run inference using ML models instead of just training.
3. Try out more complex models on the platform.



Live Demo

*Carried out in the video

Thank you!