



# CLOUDIFIER VIRTUAL APPS

VIRTUAL DESKTOP PREDICTIVE ANALYTICS APPS  
ENVIRONMENT BASED ON GPU COMPUTING  
FRAMEWORK

# THE PROBLEM

- Need of model experimentation
- Need for machine learning models repositories
- Need for rapid development of intelligent machine-learning enabled apps

# THE PROBLEM

- **Need of model experimentation:**
  - We want to understand Data Science (*learn*)
  - We want to experiment various models with our own data (*try or do predictive analytics*)
  - We want to have access to fast-experimentation (*machine learning on massive parallel computing*)

# THE PROBLEM

- **Need for machine learning models repositories:**
  - We are looking to a model that we could adopt in our business
  - We want to learn a certain predictive analytics model

# THE PROBLEM

- **Need for rapid development of intelligent machine-learning enabled apps**
  - Use community developed models or even whole pipelines
  - Get full community developed applications

# EXISTING SOLUTIONS

- Commercial products from biggest companies
  - Subscription based
  - Ties solution to the vendor
  - Slow learning rate
  - No real community based repositories

# EXISTING SOLUTIONS

- Open-source solutions
  - Need to be deployed
  - Need to be configured
  - Need to be maintained
  - Require high ML skills

# OUR APPROACH

- ***Main innovation:***
  - GPU based execution framework for shallow models
- Translation of well known shallow machine learning models
- Machine Learning model repository
- Open Source community



# THE EXECUTION FRAMEWORK

- Use GPU graph computation framework (*TensorFlow*)
- Develop efficient GPU versions of well known shallow models
- Develop REST based services over execution framework

# THE REPOSITORY

- Basic models (initial GPU optimized shallow models)
- Custom configured models (for various tasks)
- Custom pipelines (including GPU data preprocessing, model training and model inference)
- Full applications

# FUTURE DEVELOPMENTS

- More shallow models translated to GPU env
- More applications community developed
- Enlarge community and add community developed shallow models