



# 拍拍信智能算法平台实践与思考

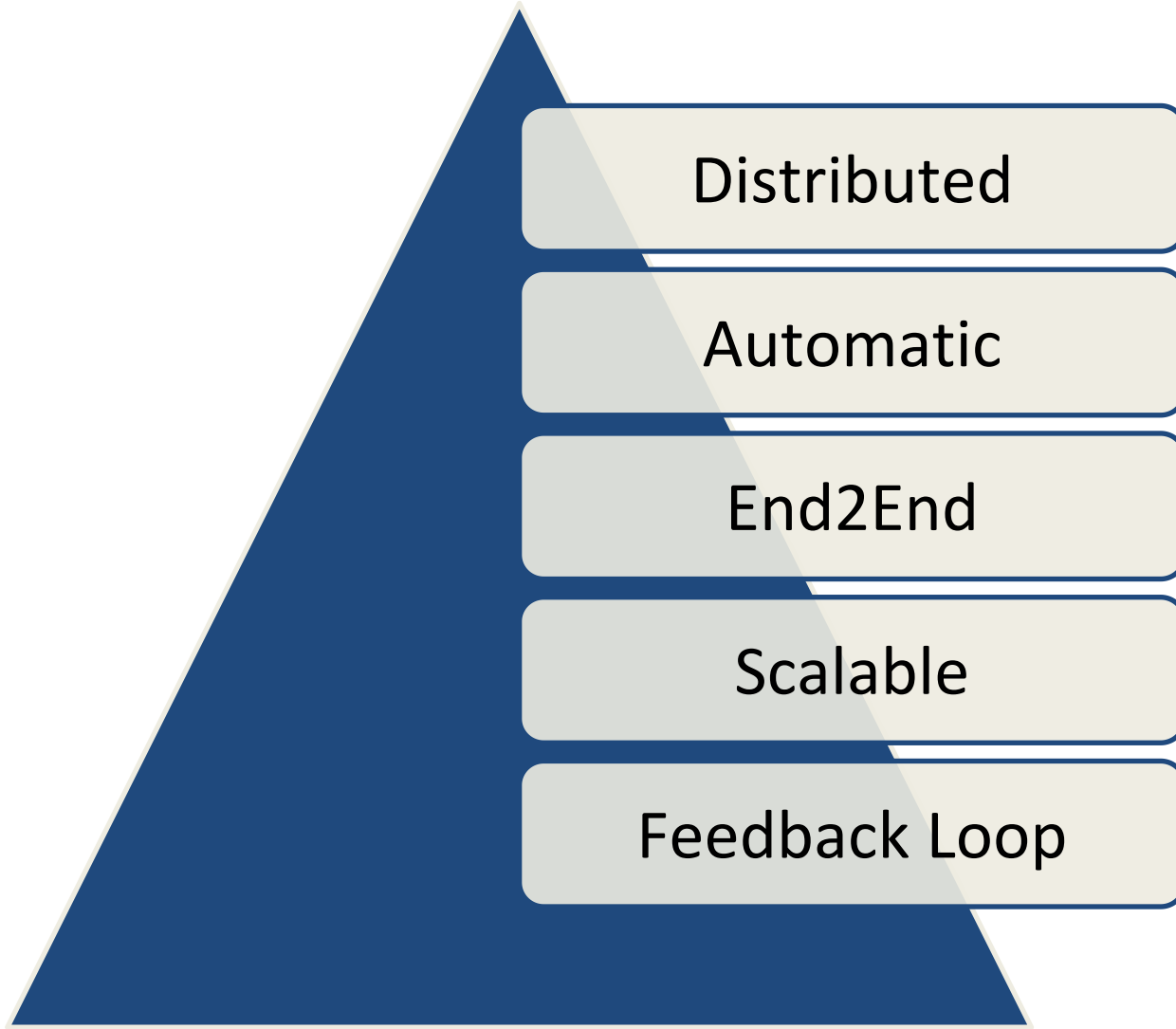
张永兴  
拍拍信算法专家

# Typical Platform Introduction:

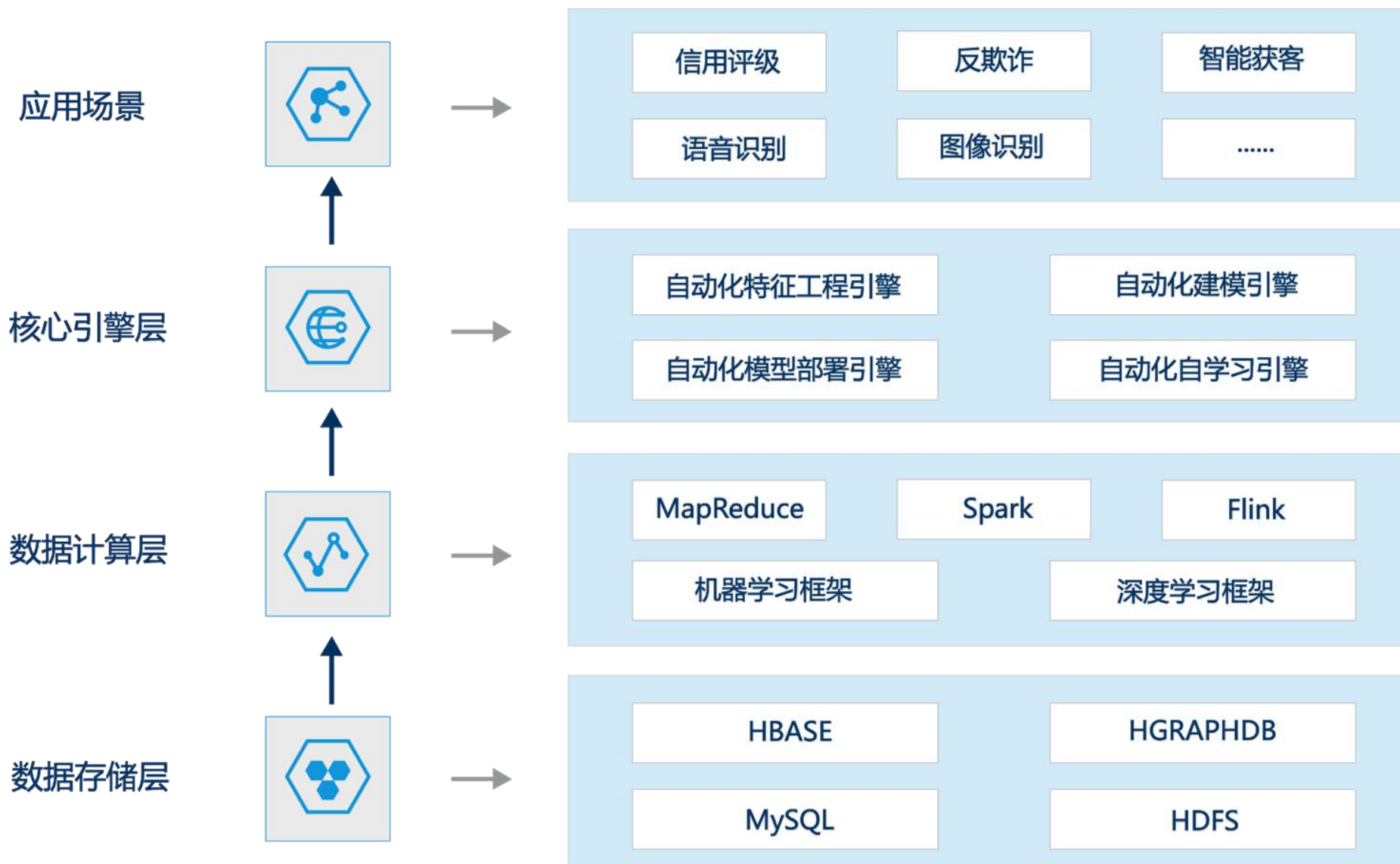


The screenshot displays the Alibaba PAI (Platform for AI) interface. The top navigation bar includes '机器学习PAI', '算法平台', '前往运维', '帮助文档', '阿里Pai', and '中文'. The left sidebar contains navigation icons for '首页', '实验', 'Notebook', '数据源', '组件', '模型', and '设置'. The main workspace shows a workflow titled '【图算法】金融风控实验\_1870' with the project name 'test2018001'. The workflow consists of the following steps: '人员数据表' (Person Data Table) -> '最大联通子图-1' (Maximum Connected Subgraph-1) -> 'SQL脚本-1' (SQL Script-1) -> 'JOIN-1' -> '单源最短路径-1' (Single Source Shortest Path-1) -> '标签传播分类-1' (Label Propagation Classification-1) -> '欺诈权重\_SQL脚本' (Fraud Weight SQL Script). A '已知数据' (Known Data) node is also connected to the '标签传播分类-1' step. The right sidebar shows the '实验属性' (Experiment Properties) section with fields for 'Project Name test2018001', '创建日期 2018-01-02 11:46:52', '名称' (Name) set to '【图算法】金融风控实验\_1870', and a '描述' (Description) box containing the text: '利用图算法，针对个人信用，解决金融行业的风控问题。' (Using graph algorithms, targeting personal credit, to solve risk control problems in the financial industry.)

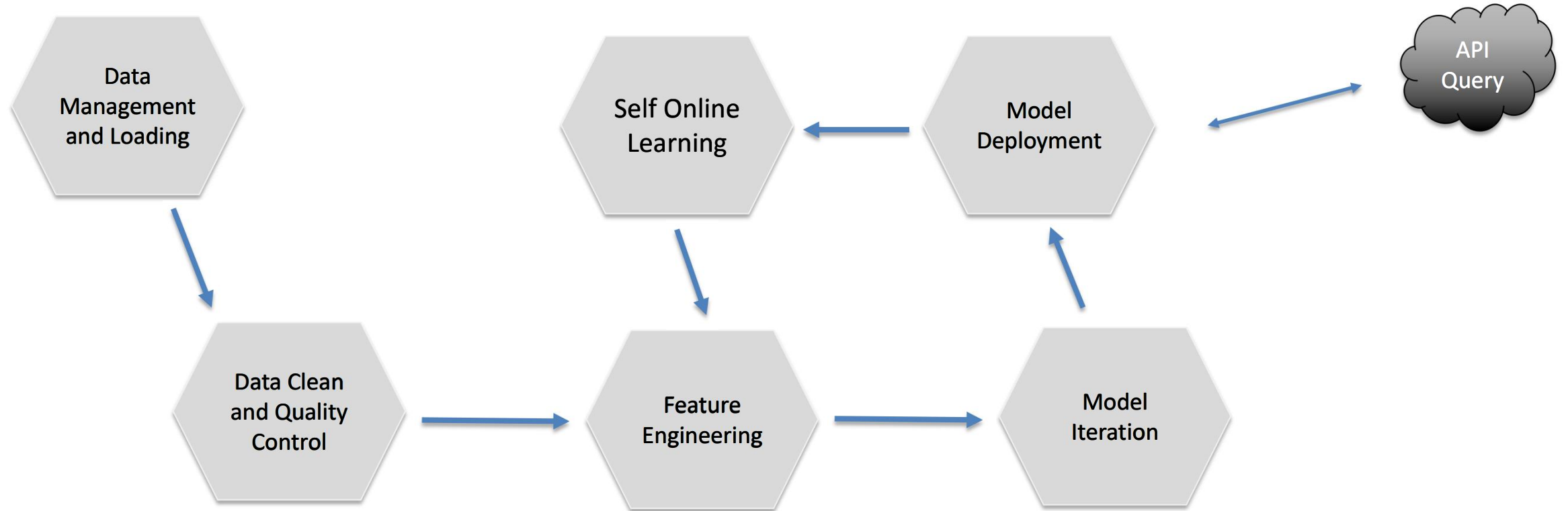
# PPC AI Platform Design:



# Framework:



# Framework:



# Distributed:

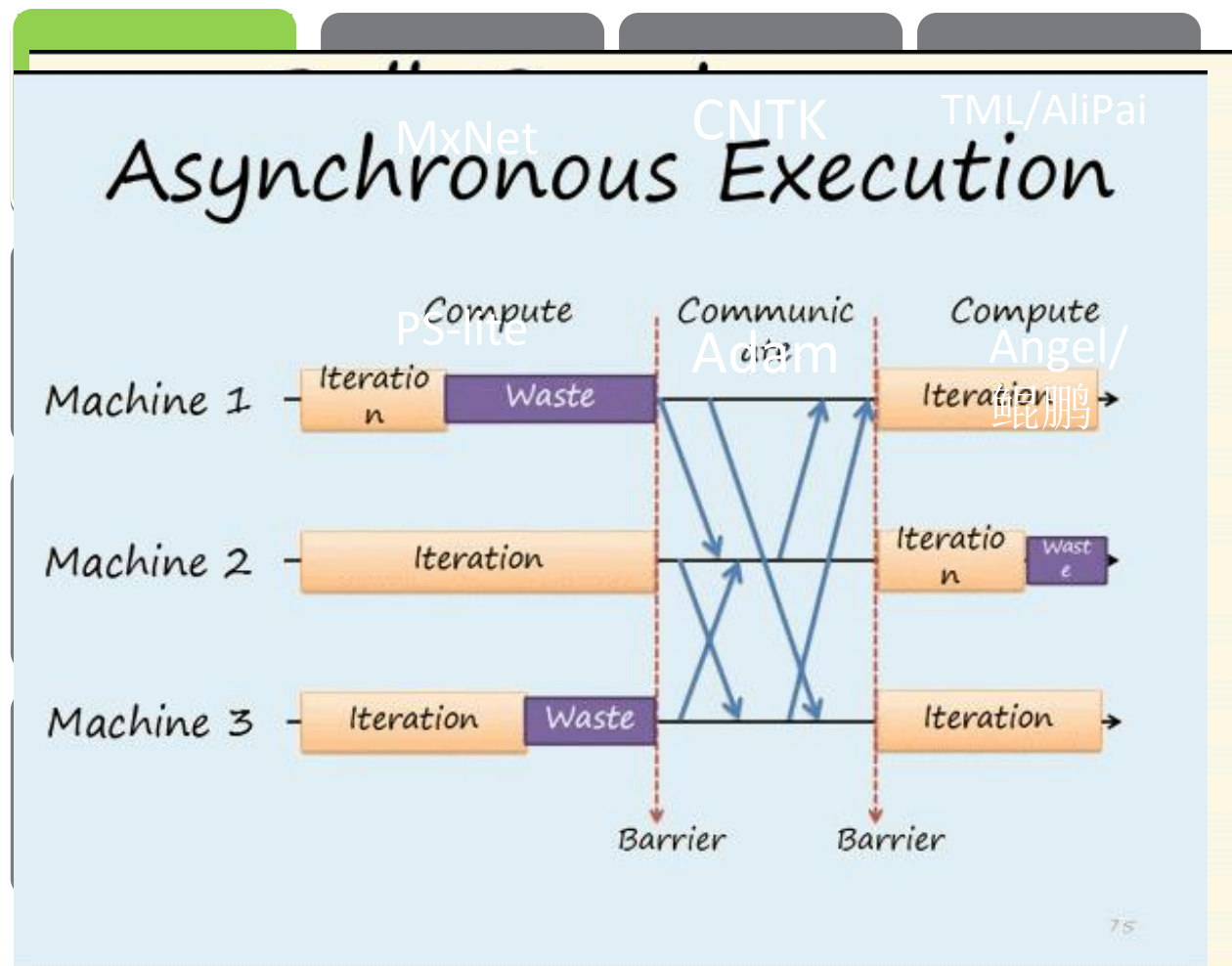


Distributed  
LightGBM

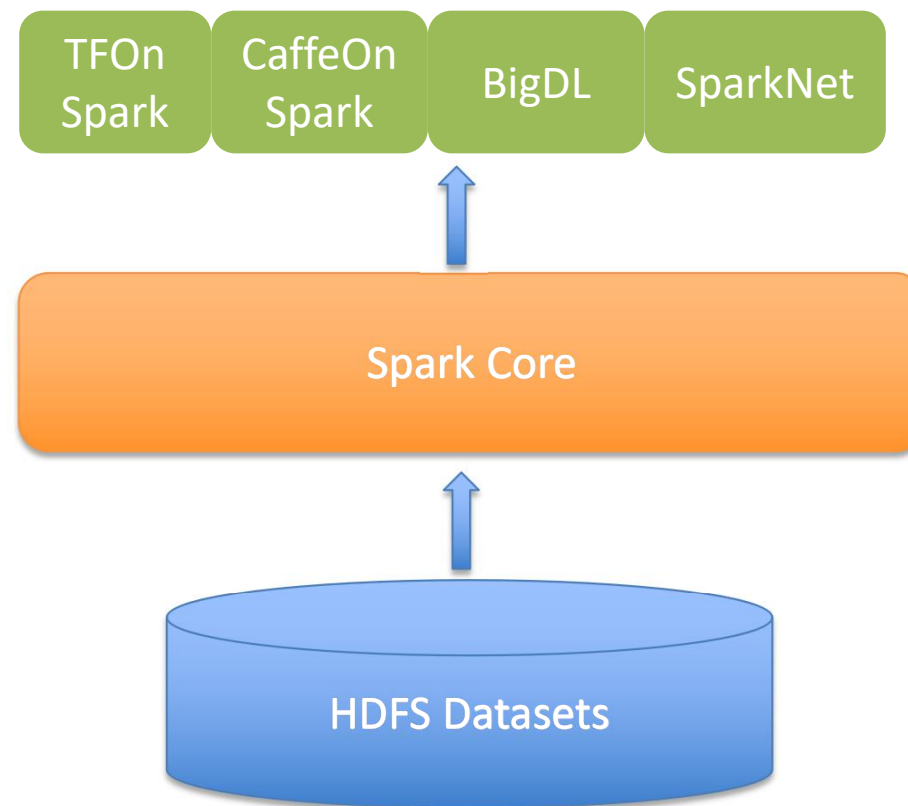
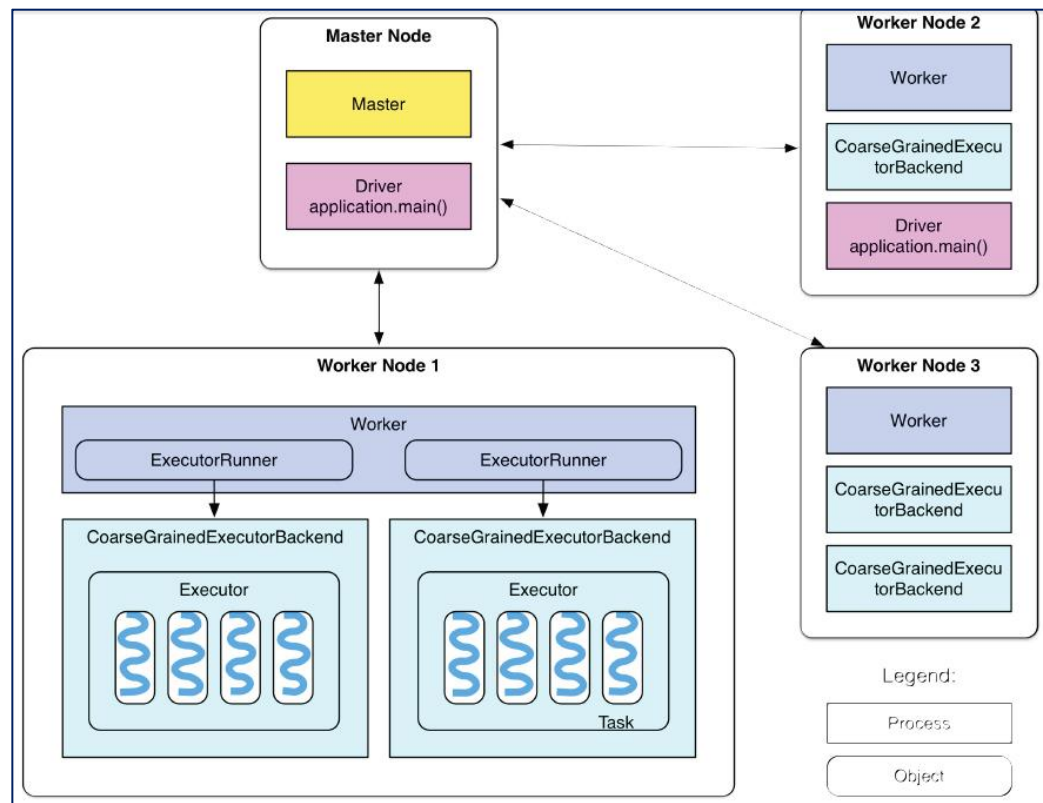
Distributed  
Xgboost

DL GPU  
Acceleration

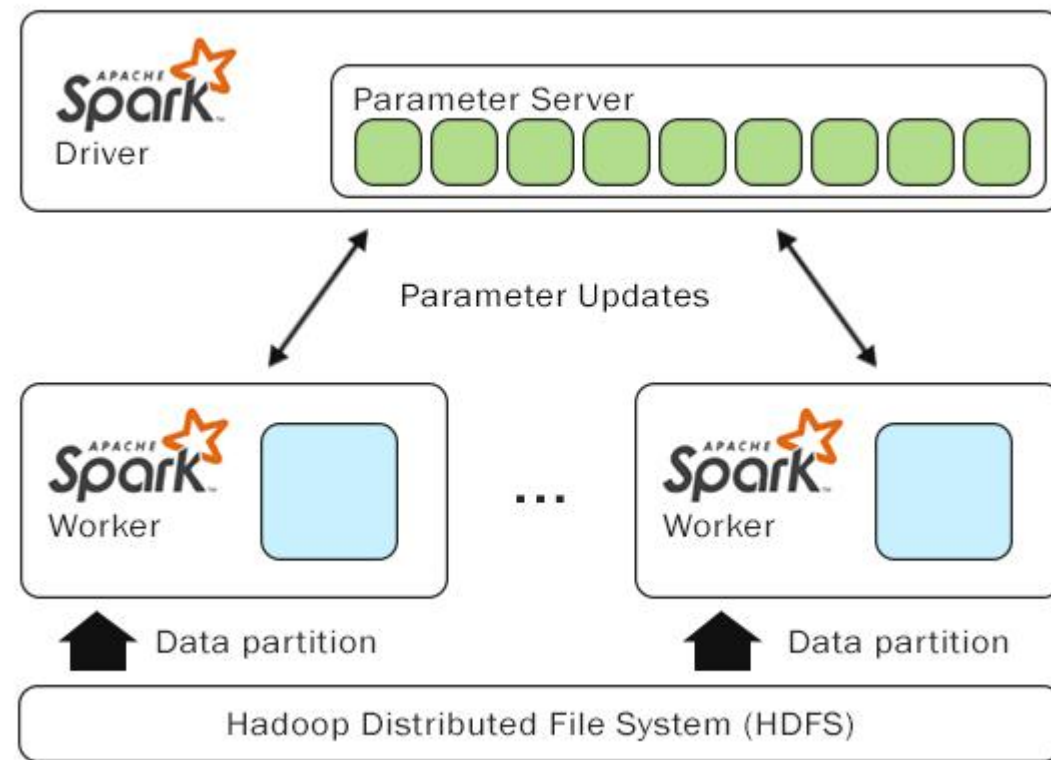
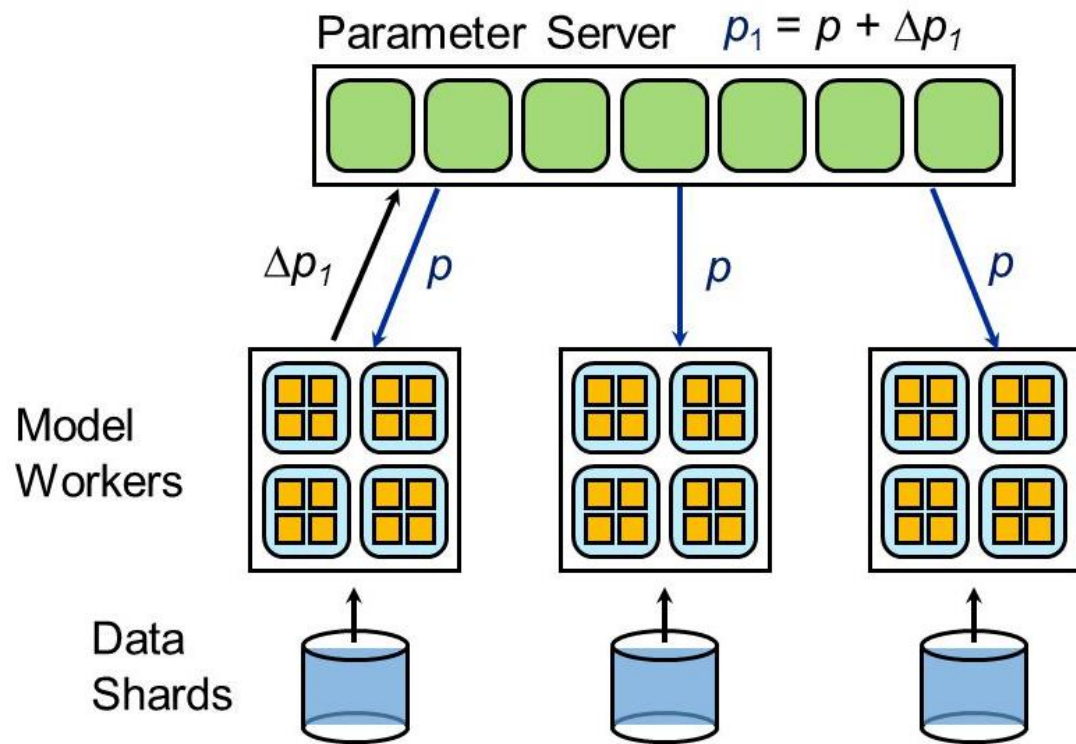
Based On MPI



# In Deep Learning Area, Why Not Spark?



# PPC Approach 1.0:

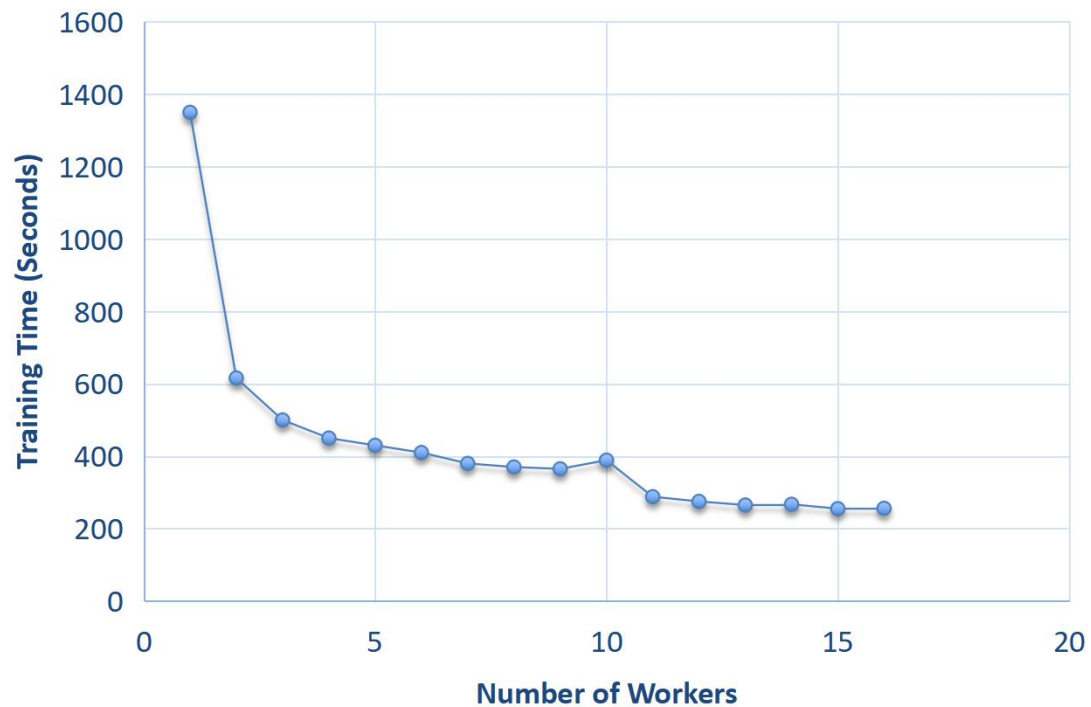




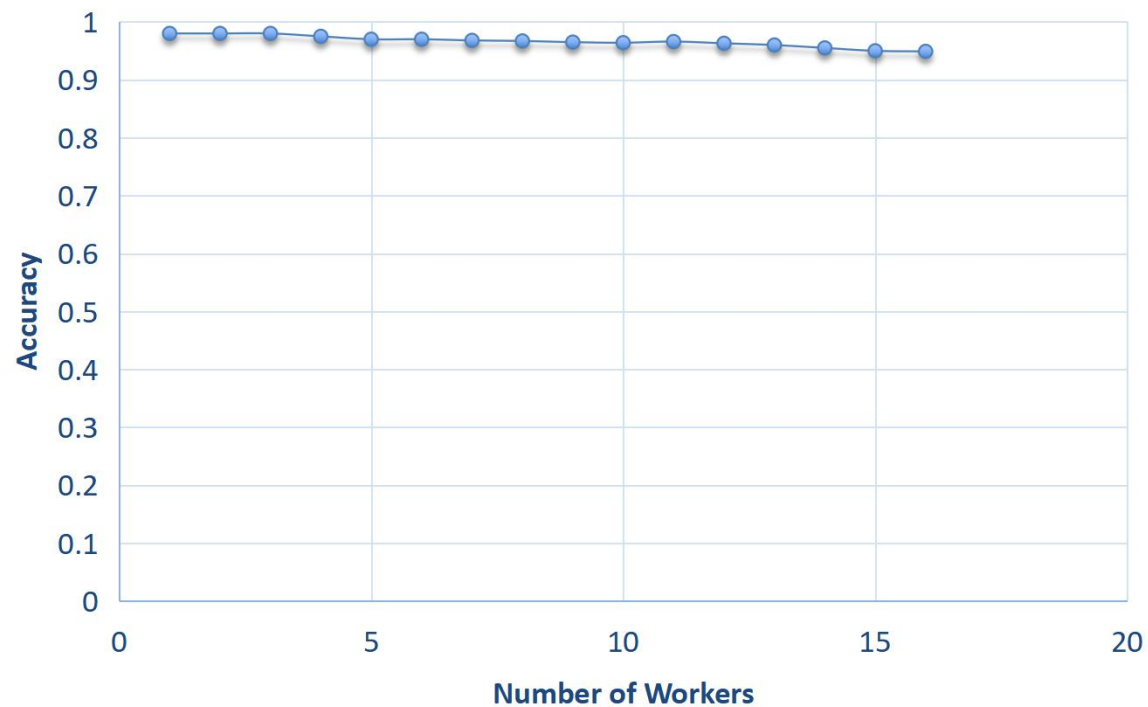
# Experiment:



## Training Time vs. Number of Workers



## Accuracy vs. Number of Workers



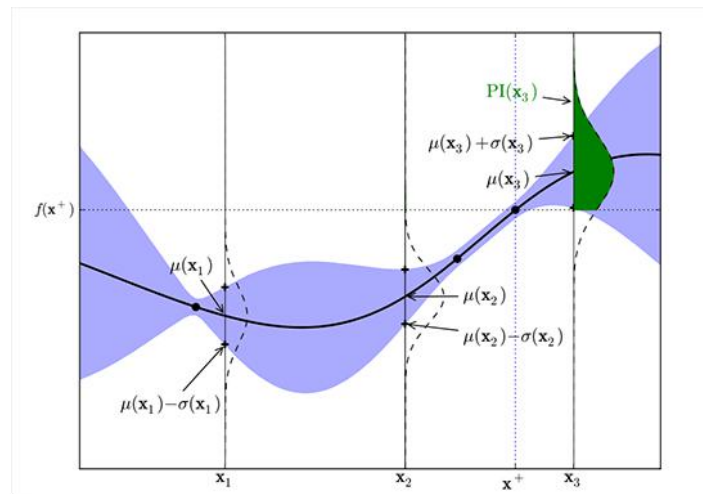
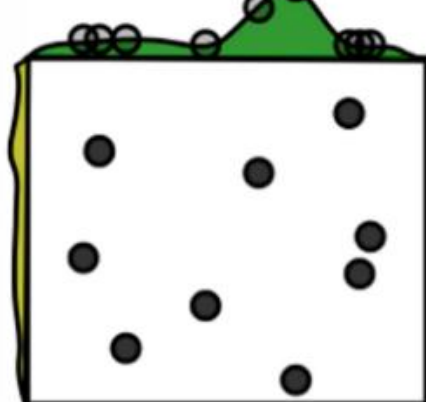
# Automatic



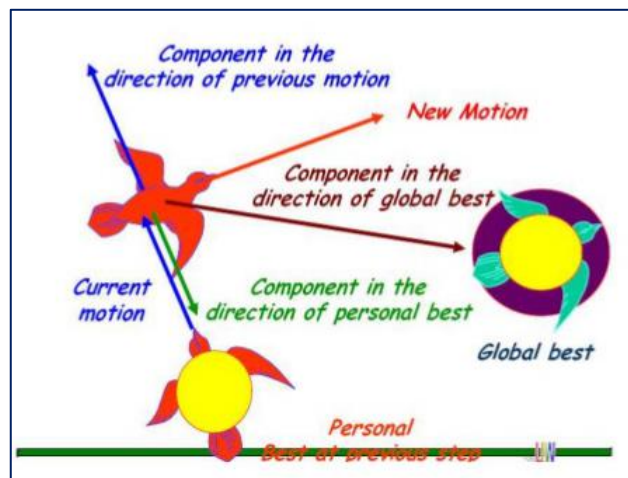
Grid Search



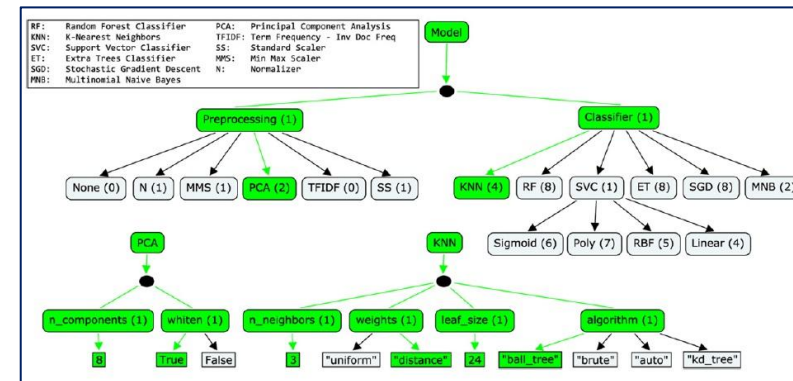
Random Search



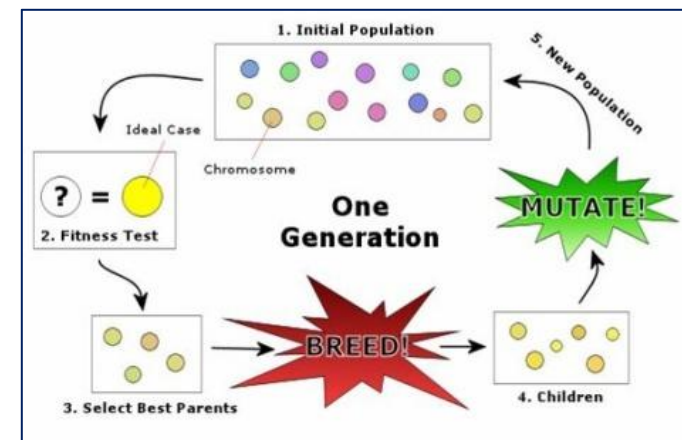
Bayesian Optimization



Particle Swarm Optimization

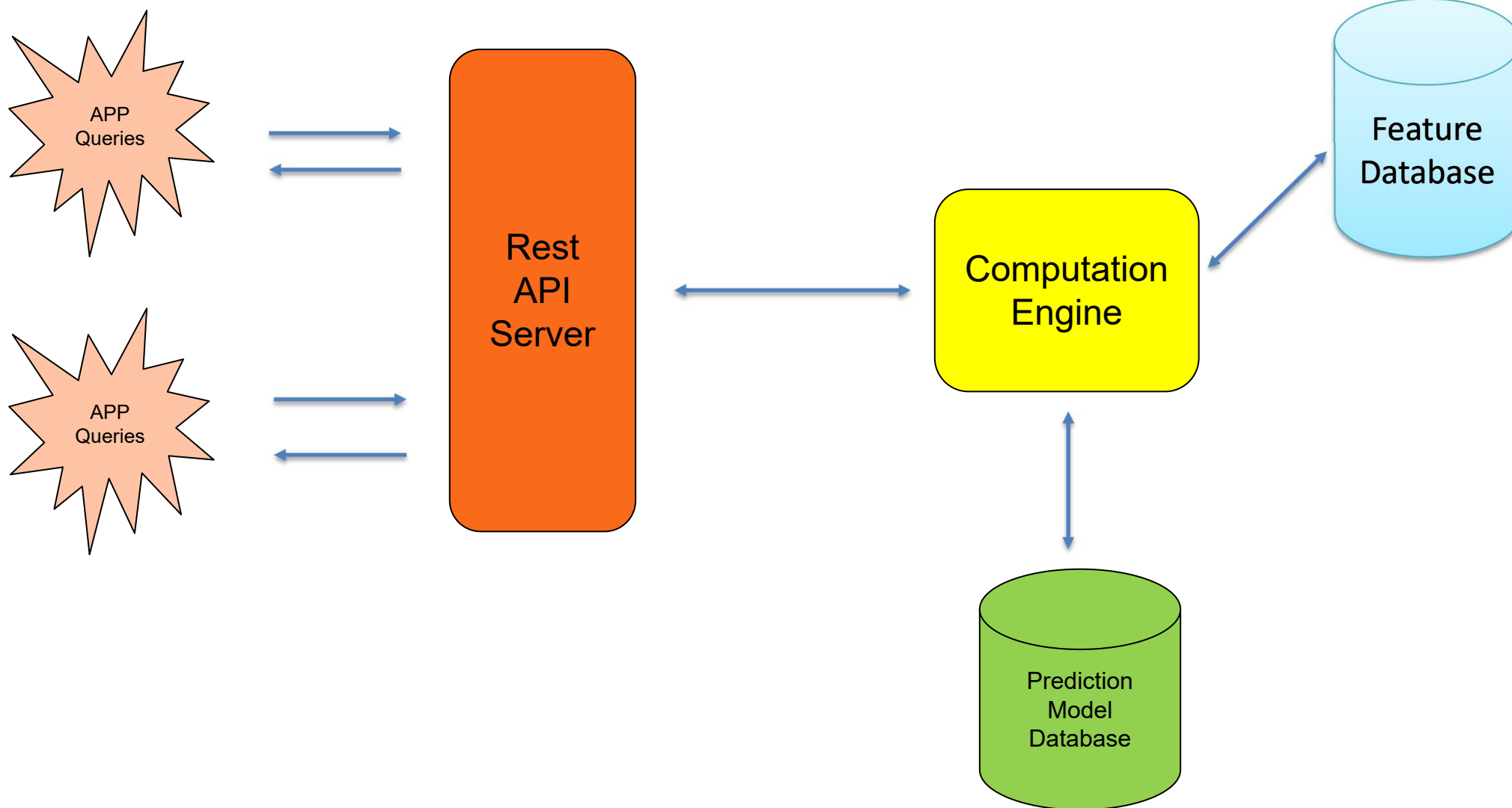


TPE

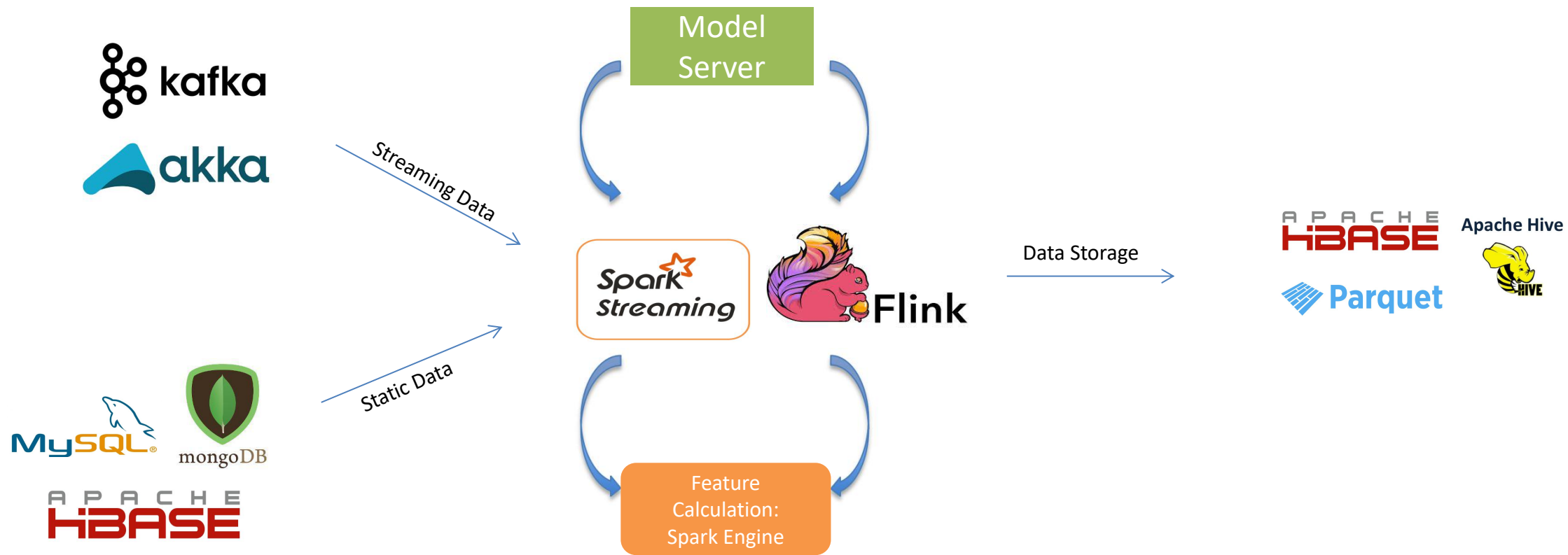


Genetic Algorithm

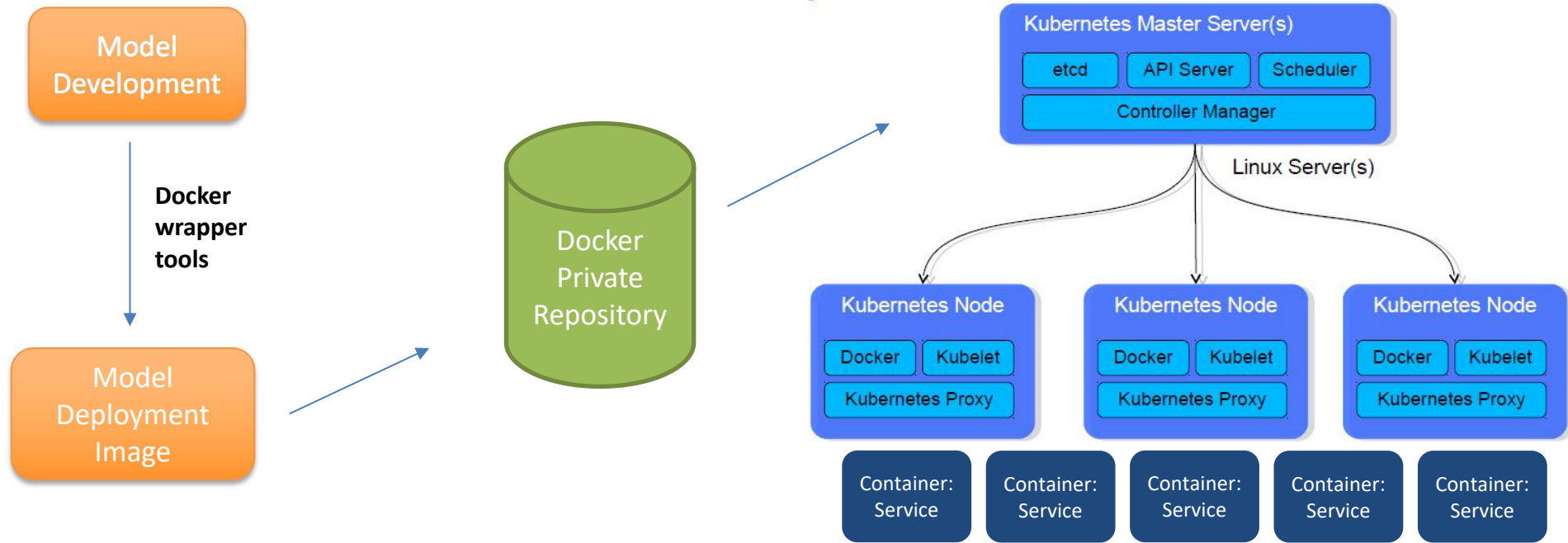
# End2End: API Inference



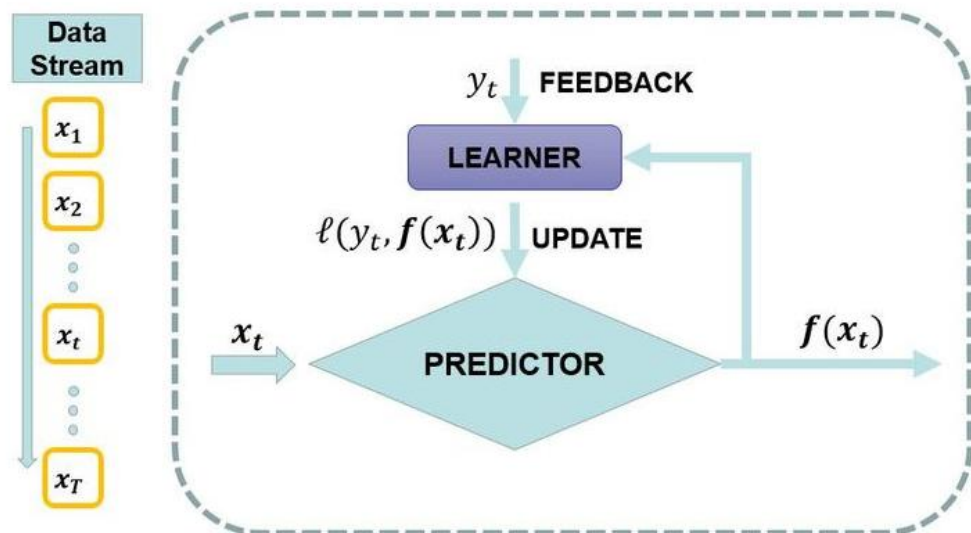
# End2End: Streaming Processing



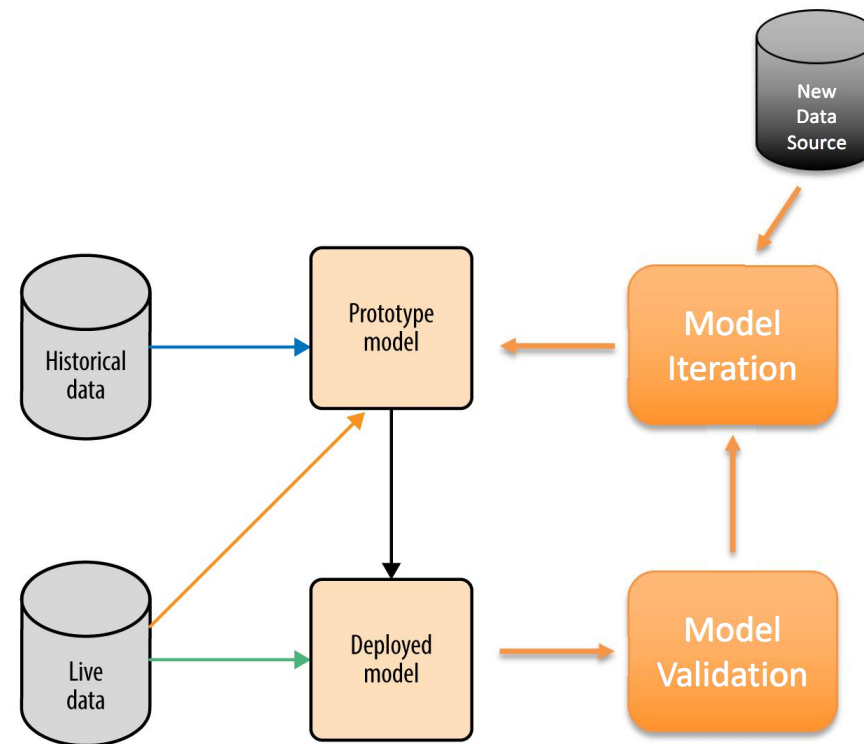
# Scalable:



# Feedback Loop:

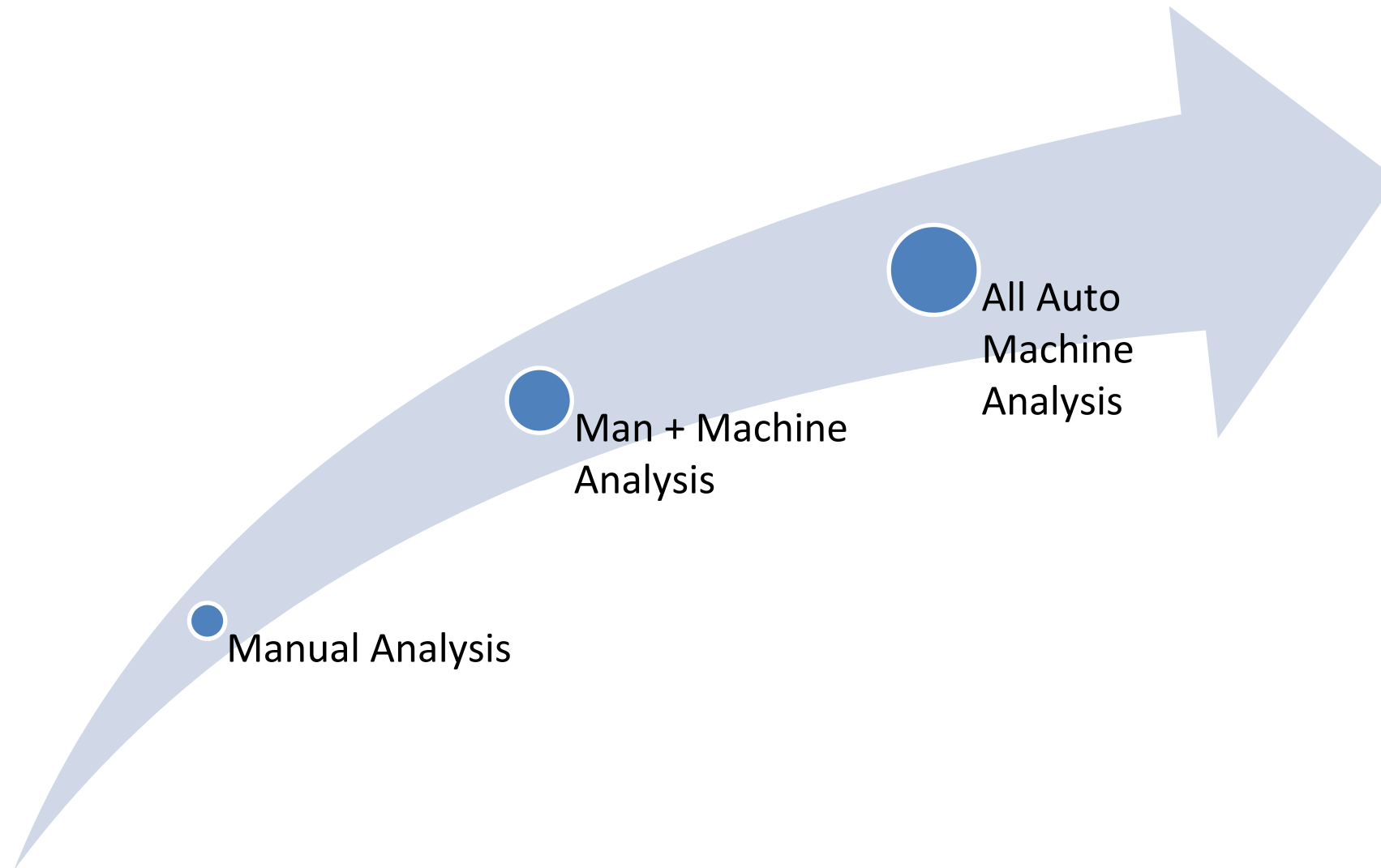


Online Learning



Online Batch Learning

# To Be Continued.....





# Thanks!

## Q & A