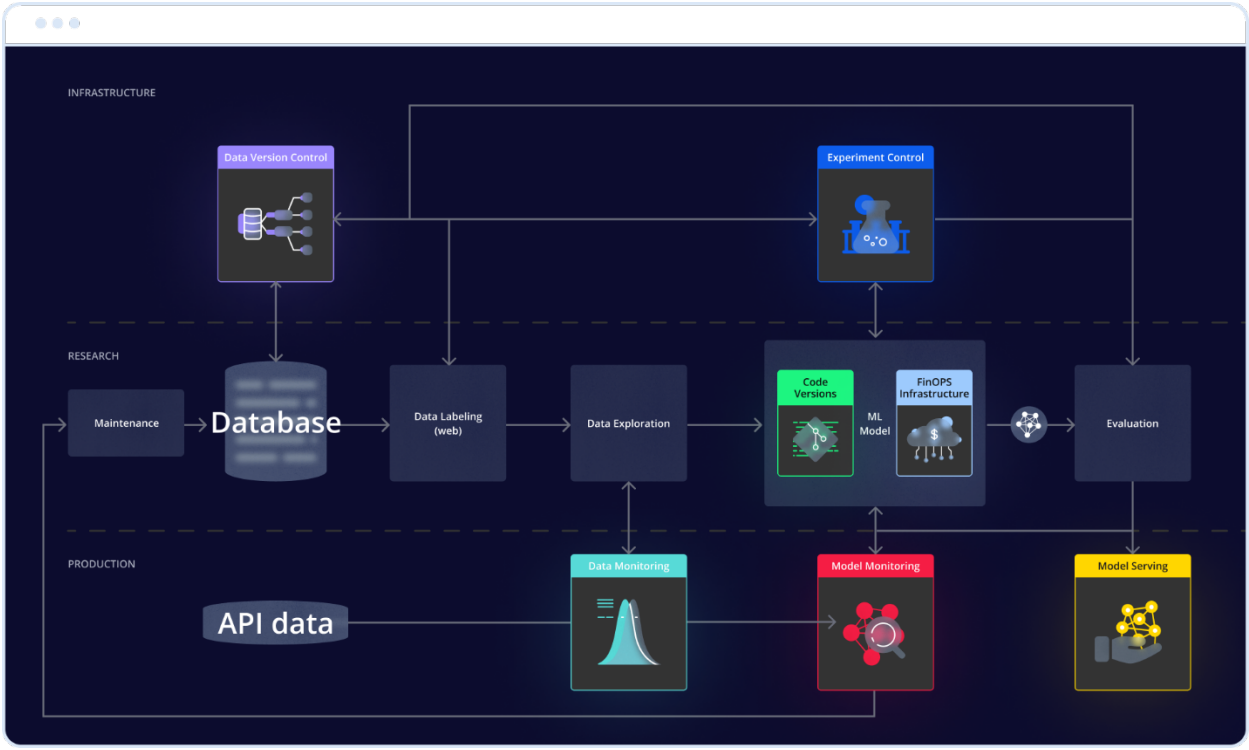
Effective MLOps with coreControl

https://www.corecontrol.coreai.ai/

> ***"...data Scientists spend ~80% of their time preparing and managing data for analysis" (Forbes*)***
>
> * https://www.forbes.com/sites/gilpress/2016/03/23/data-preparation-most-time-consuming-least-enjoyable-data-science-task-survey-says/?sh=53d634d16f63
> https://www.dataversity.net/survey-shows-data-scientists-spend-time-cleaning-data/

CoreControl platform will help you arrange and enter the new age of data-centric via MLOps



Experiment Management / KPIs

Data Versioning

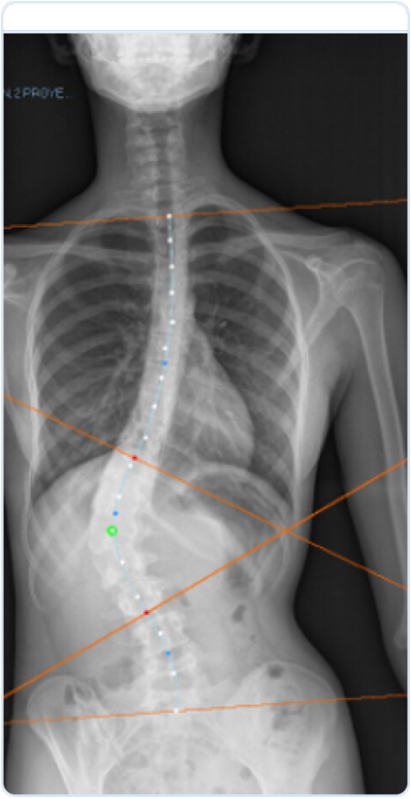
Github Versions

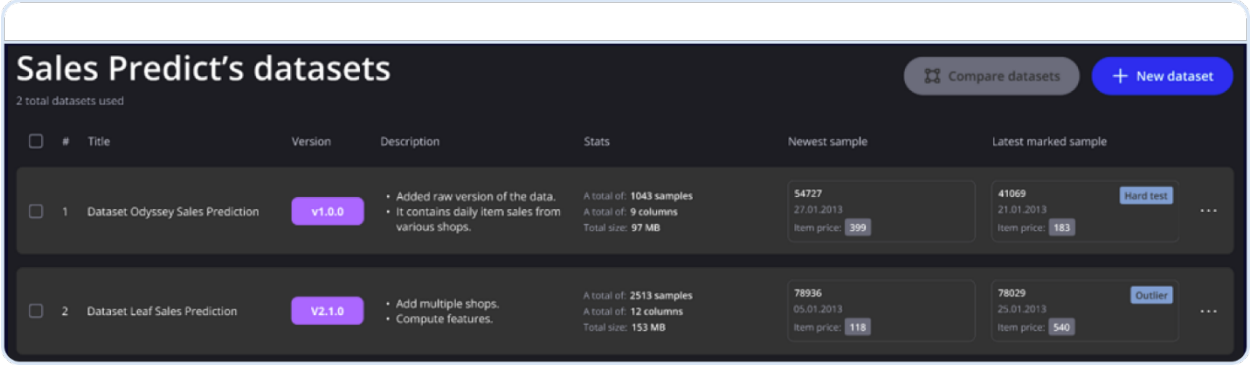
Model Serving

Model Monitoring

Data Monitoring

Infrastructure / FinOps




Sales Predict's datasets
2 total datasets used
Compare datasets
New dataset
Title Version Description Stats Newest sample Latest marked sample
1 Dataset Odyssey Sales Prediction
v1.0.0
• Added raw version of the data.
• It contains daily item sales from various shops.
A total of: 1043 samples
A total of: 9 columns
Total size: 97 MB
54727
27.01.2013
Item price: 399
41069
21.01.2013
Item price: 183
Hard test
2 Dataset Leaf Sales Prediction
V2.1.0
• Add multiple shops.
• Compute features.
A total of: 2513 samples
A total of: 12 columns
Total size: 153 MB
78936
05.01.2013
Item price: 118
78029
25.01.2013
Item price: 540
Outlier

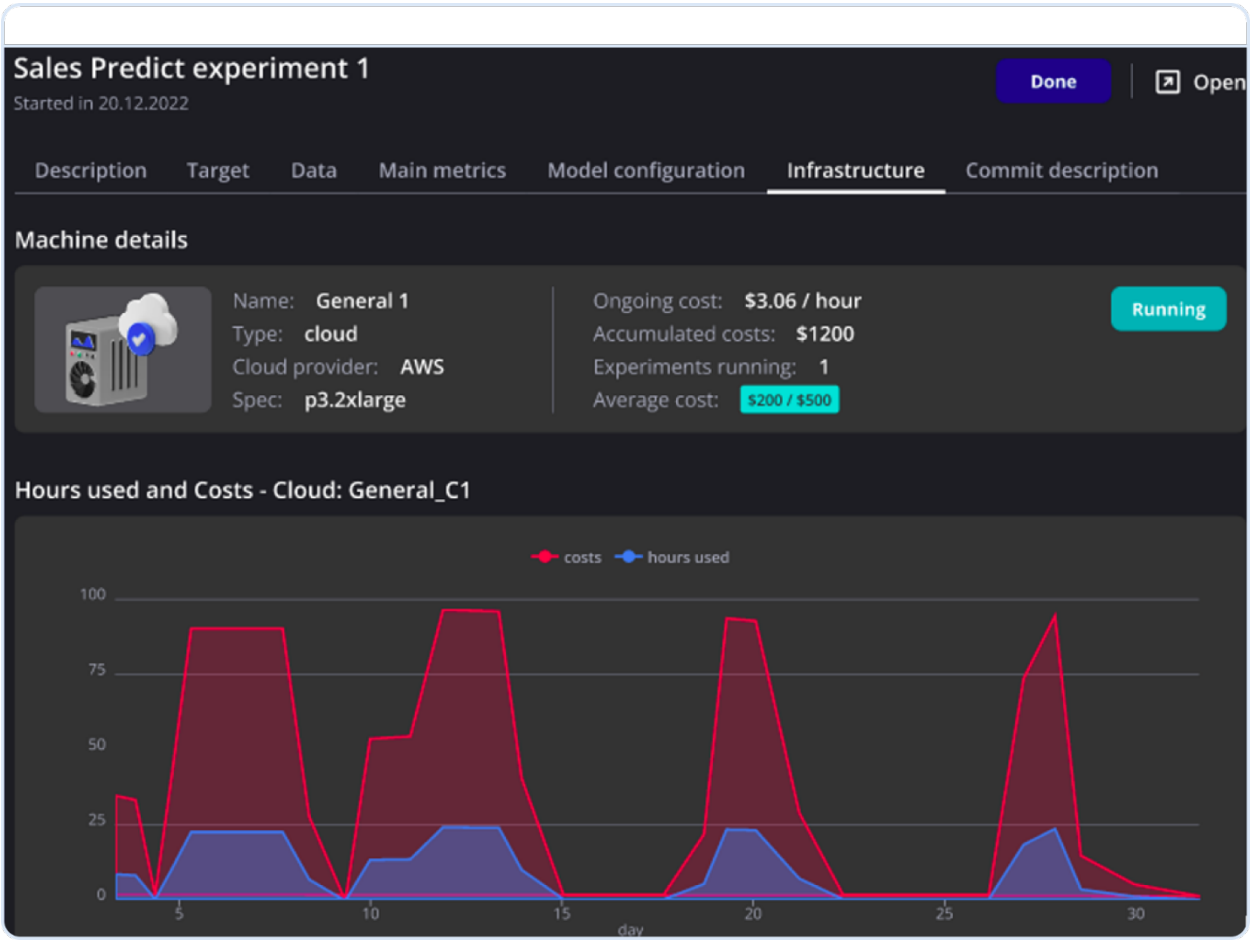

Item price histogram
Frequency
Estimated
0.0016
0.0014
0.0012
0.0010
0.0008
0.0006
0.0004
0.0002
0.0000
0
1000
2000
3000
4000
5000
6000
item_price

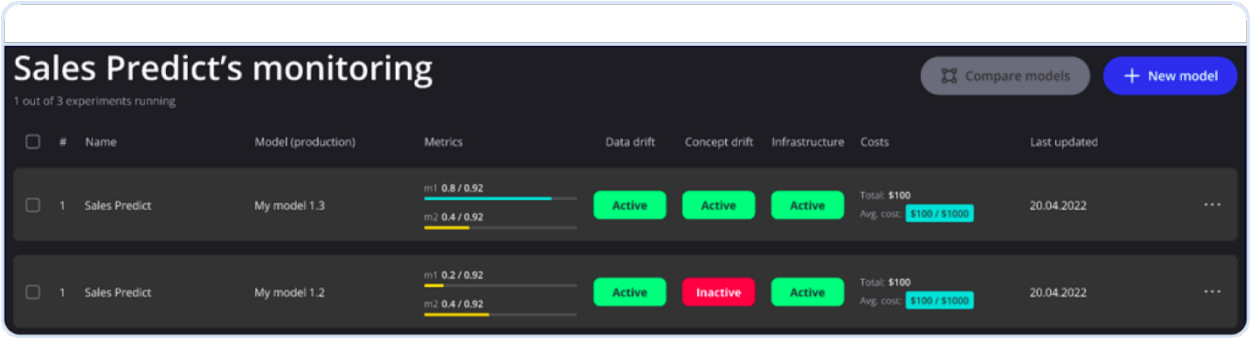
Sales Predict's experiments

1 out of 3 experiments running

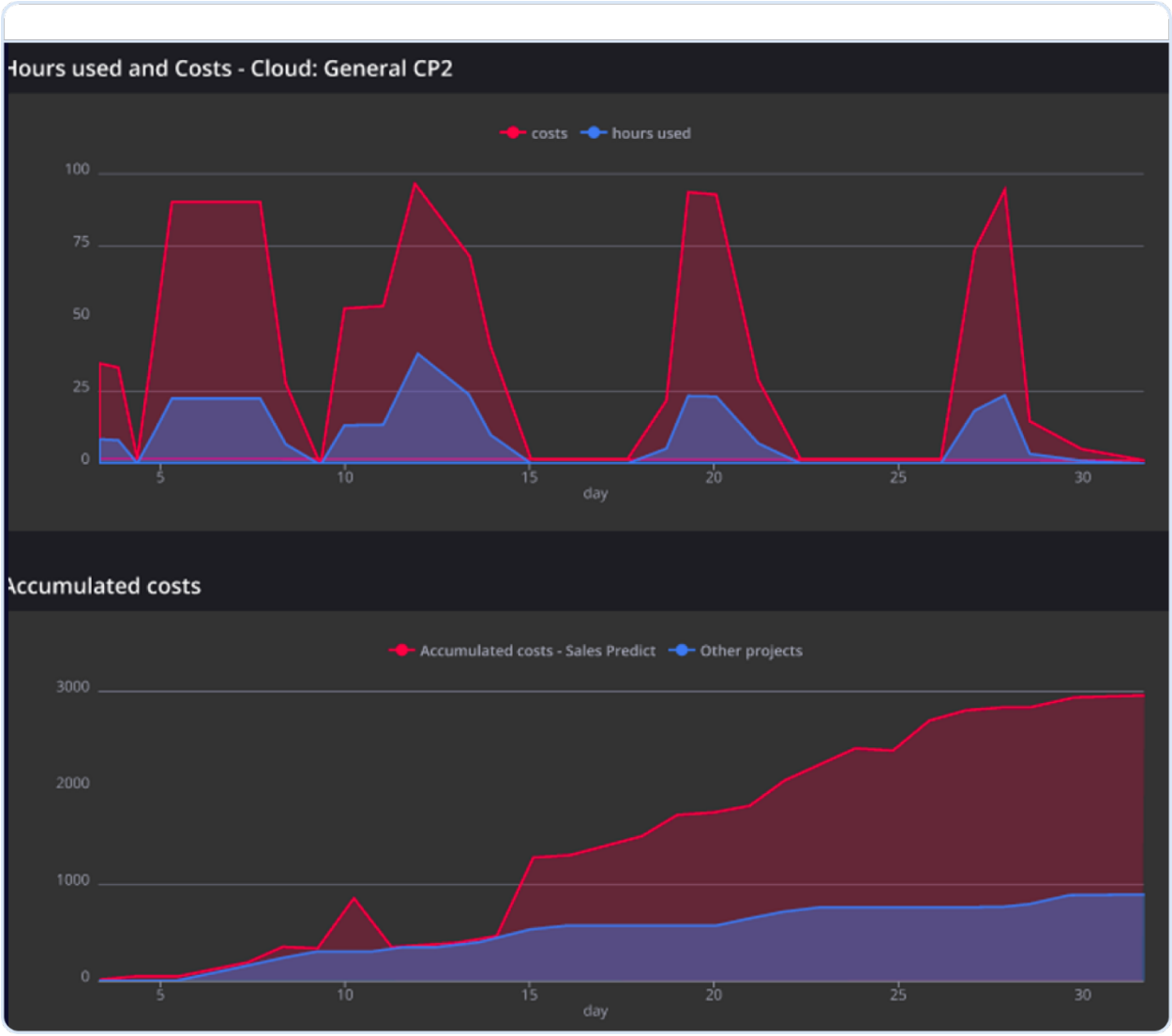
Compare experiments | + New experiment

#	Description	Target	Data	Main Metrics	Model configuration	Infrastructure	Commit description	Status
1	Predictions aggregated by shop id.	Analysis on the shop level.	Odyssey Sales Prediction V1.0.0	RMSE 193.2 / 500 RRSE 0.17 / 0.8	Num_boost_round: 3000 Num_leaves: 127 Learning_rate: 0.05	Trained in: 1d 5h 30m Avg. cost: $200 / $500 Used 2/3 VMs	Added pipeline that aggregates predictions.	Done
2	Try another dataset.	See if the results are persisting.	Leaf Sales Prediction V2.1.0	RMSE 173.2 / 500 RRSE 0.14 / 0.8	Num_boost_round: 3100 Num_leaves: 256 Learning_rate: 0.05	Trained in: 8h 15m Avg. cost: $55 / $500 Used 2/3 VMs	Added pipeline that aggregates predictions....	Done
3	Trained without the val split.	Better results.	Odyssey Sales Prediction V1.1.0	RMSE - / 1.95 RRSE - / 0.8	Num_boost_round: 2950 Num_leaves: 256 Learning_rate: 0.05	Running for: 5h 30m Avg. cost: $28 / $15 Used 2/3 VMs	Add support to fuse train and val for final train.	Running
4	Add additional shops to the dataset.	Better results.	Odyssey Sales Prediction V2.0.0	RMSE - / 1.95 RRSE - / 0.8	Num_boost_round: 2950 Num_leaves: 256 Learning_rate: 0.05	Est. Training time: 1d Avg. cost: $160 / $155 Used 2/3 VMs	Solve memory leakage issues.	In queue


Sales Predict experiment 1
Started in 20.12.2022
Done
Open
Description
Target
Data
Main metrics
Model configuration
Infrastructure
Commit description
Machine details
Name: General 1
Type: cloud
Cloud provider: AWS
Spec: p3.2xlarge
Ongoing cost: $3.06 / hour
Accumulated costs: $1200
Experiments running: 1
Average cost: $200 / $500
Running
Hours used and Costs - Cloud: General_C1
costs
hours used
100
75
50
25
0
5
10
15
20
25
30
day


Sales Predict's monitoring
1 out of 3 experiments running
Compare models
New model
Name Model (production) Metrics Data drift Concept drift Infrastructure Costs Last updated
1 Sales Predict My model 1.3 m1 0.8 / 0.92 m2 0.4 / 0.92 Active Active Active Total: $100 Avg. cost: $100 / $1000 20.04.2022
1 Sales Predict My model 1.2 m1 0.2 / 0.92 m2 0.4 / 0.92 Active Inactive Active Total: $100 Avg. cost: $100 / $1000 20.04.2022


Overview
Data drift
Concept drift
Infrastucture
Data Drift KL Divergence
KLDiv
Upper bound KLDiv
Lower bound KLDiv
120
100
80
60
40
20
0
0
150
200
250
300
350
400


Hours used and Costs - Cloud: General CP2
costs
hours used
100
75
50
25
0
5
10
15
20
25
30
day
Accumulated costs
Accumulated costs - Sales Predict
Other projects
3000
2000
1000
0
5
10
15
20
25
30
day

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