

Oracle分析平台新特性及案例分享

公益讲座11: 00准时开始, 请大家先浏览云技术微信公众号技术文章。资料会在各群同步发布, 已入群客户请勿重复入群!



20-19

数据库和云讲座群



甲骨文云技术公众号

Oracle 分析平台OAC/OAS新特性 机器学习与AI案例分享

Sammy Sun

Dec 2022

Oracle SE Hub Business Analytics

议程

- 1 Oracle 机器学习及AI整体架构
- 2 Oracle 分析平台OAC/OAS 新特性
- 3 机器学习与AI案例
- 4 Q&A

Oracle 机器学习及AI整体架构

Oracle Analytics Cloud

AI Services



Language



Forecasting



Speech



Vision



Anomaly Detection



Document Understanding



Digital Assistant



Function

Machine Learning Services



Data Science



Oracle Database Machine Learning

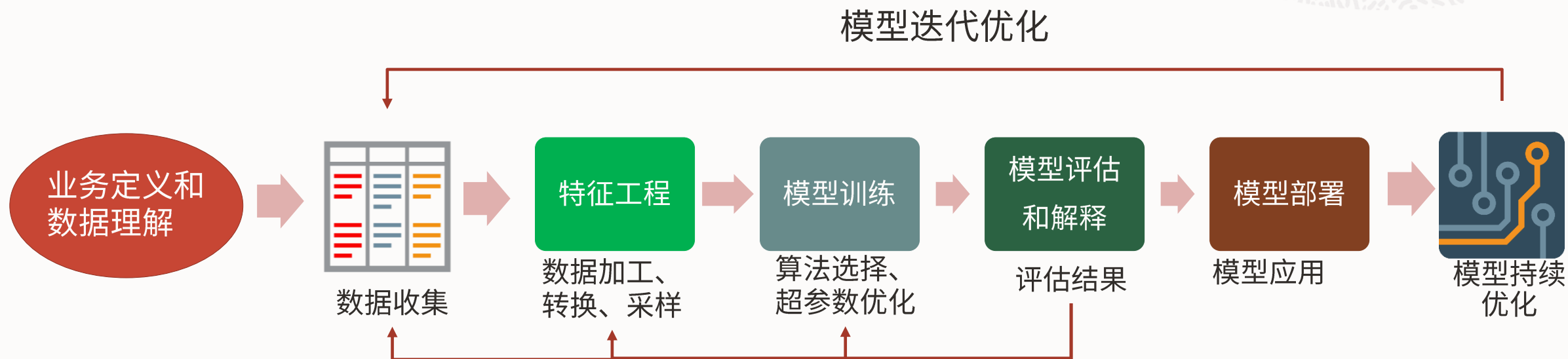


Data Labeling

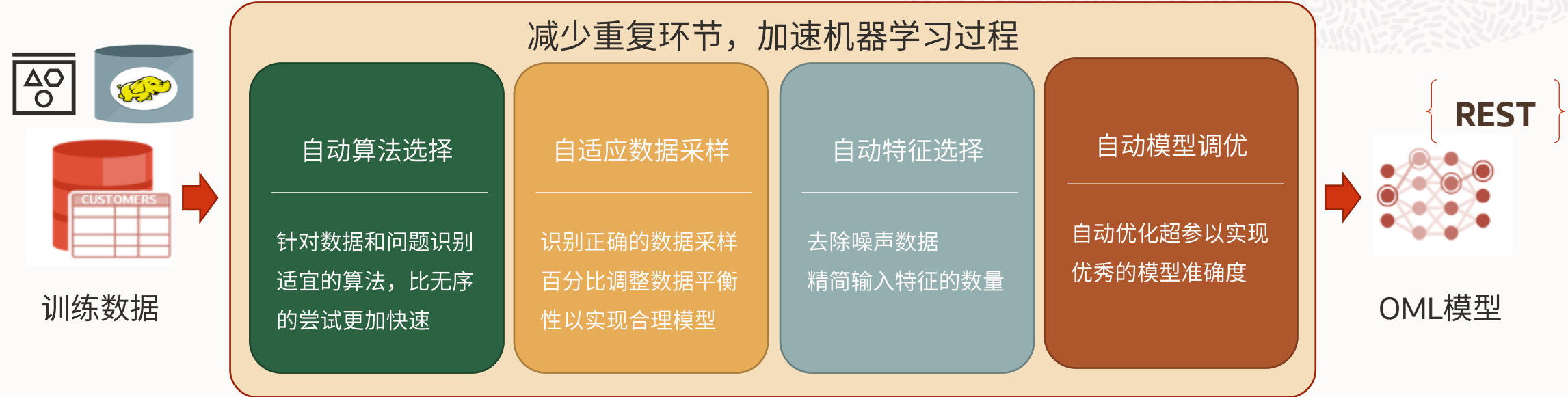
Data



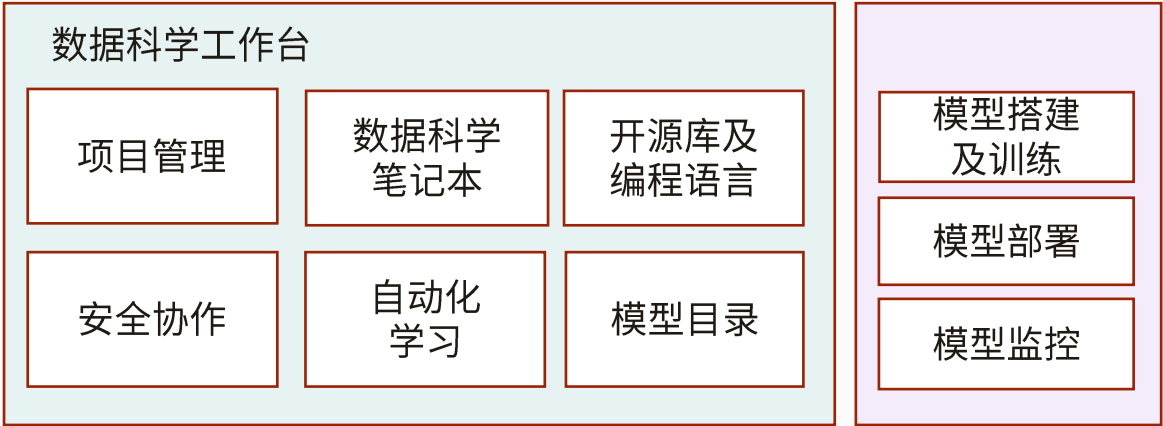
一般的机器学习过程



Oracle自动化的机器学习(AutoML)过程



Oracle数据科学云服务(Data Science Service)



应用场景

- 客户需要高级分析和机器学习从现有数据资产中 提取更多业务价值
- 客户拥有专业数据科学家，希望能兼容现有主流开源平台技术和应用资源

价值体现

- 功能强大：Oracle 云基础设施数据科学平台专 为满足现代数据科学家的需求而设计，融合了新的开源机器学习工具包与 Oracle 的专有技术。
- 可扩展：凭借 Oracle 云硬件的高速性能和可扩展性，数据科学家可以扩展其数据科学资源以应 对组织中的大数据挑战。
- 协作：实现细粒度访问控制 and 安全性，集中管理数据科学资产，从而让数据科学家团队可以在一个协作式工作区协同作业。



数据科学家

深度学习

开源

自动化学习



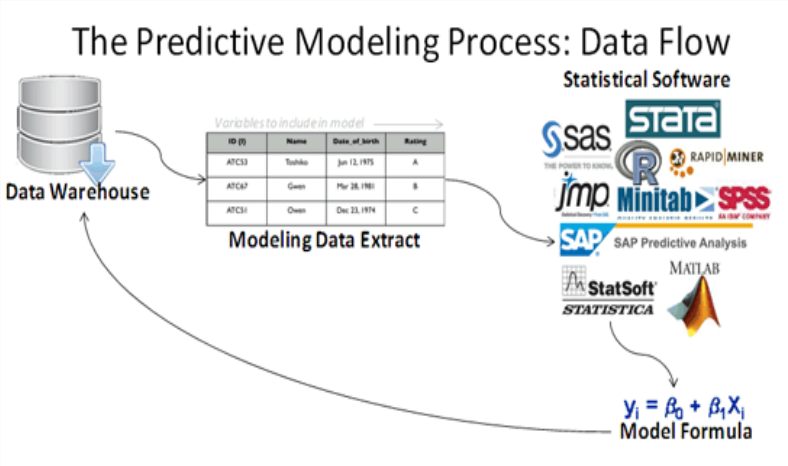
Oracle数据库ML/Auto ML能力

2

Oracle Database Machine Learning

ADW **Auto ML**

传统——“移动数据”



ORACLE :

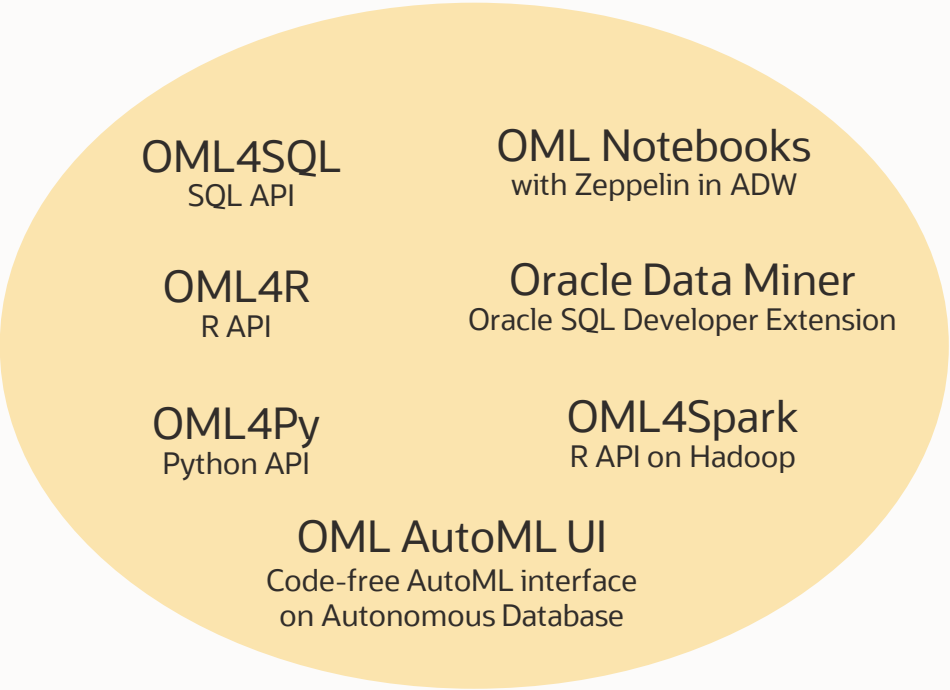
“无需移动数据!”

“算法无限贴近数据”

“安全捆绑”

“处理能力”

“备份与恢复”



Oracle分析平台Auto ML能力



3

Oracle Analytics(OAC/OAS)

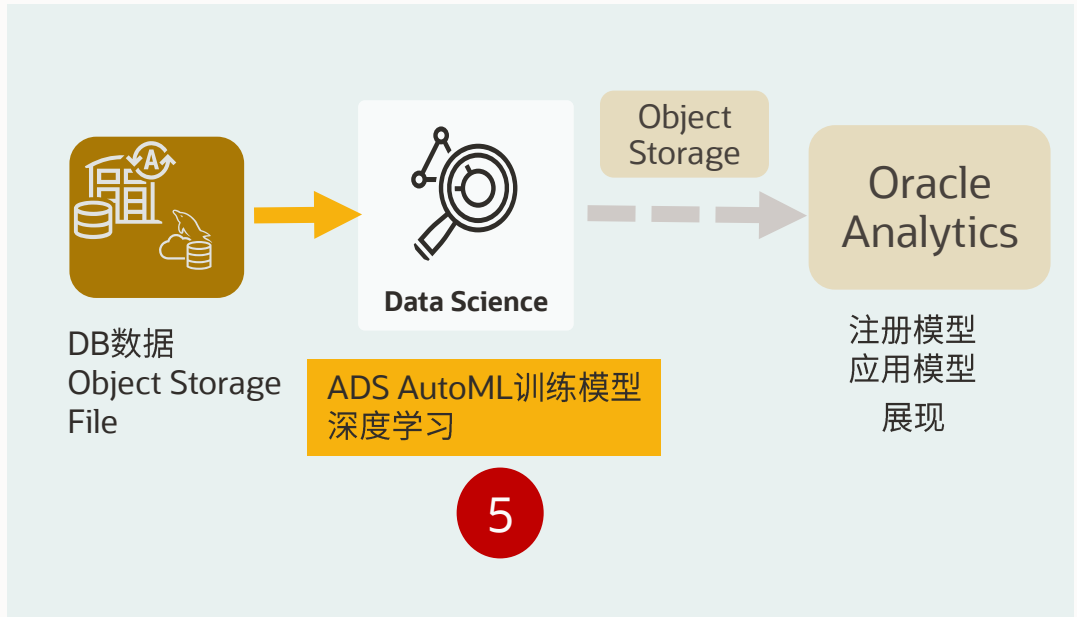
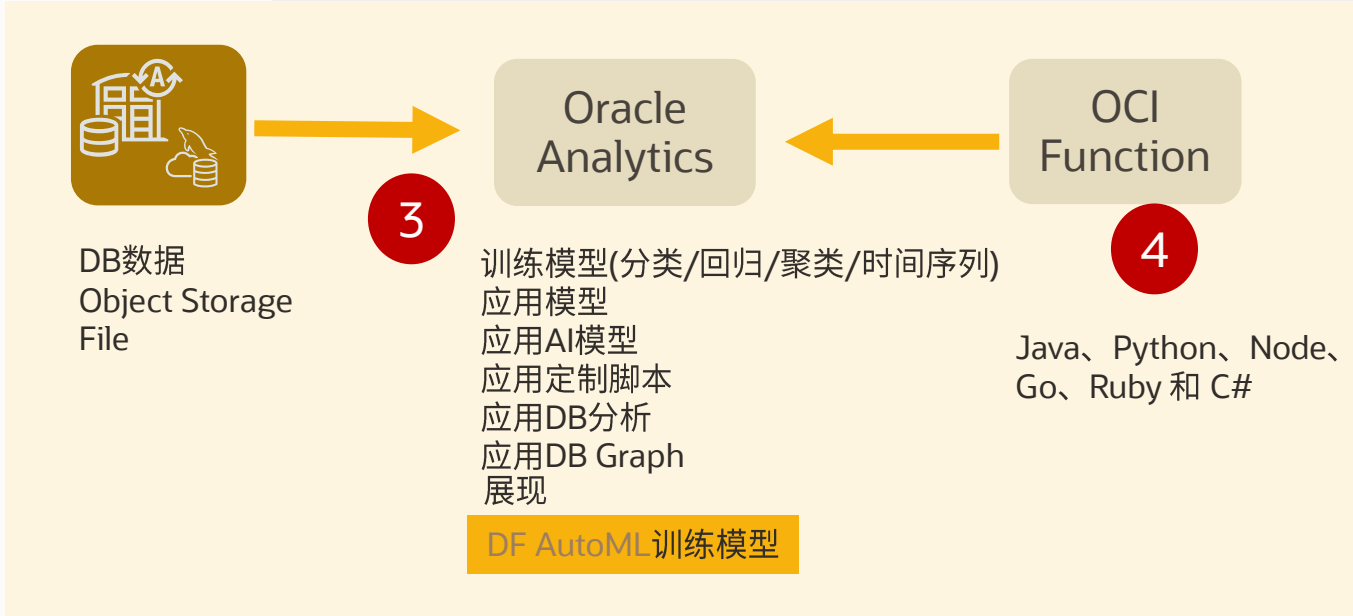
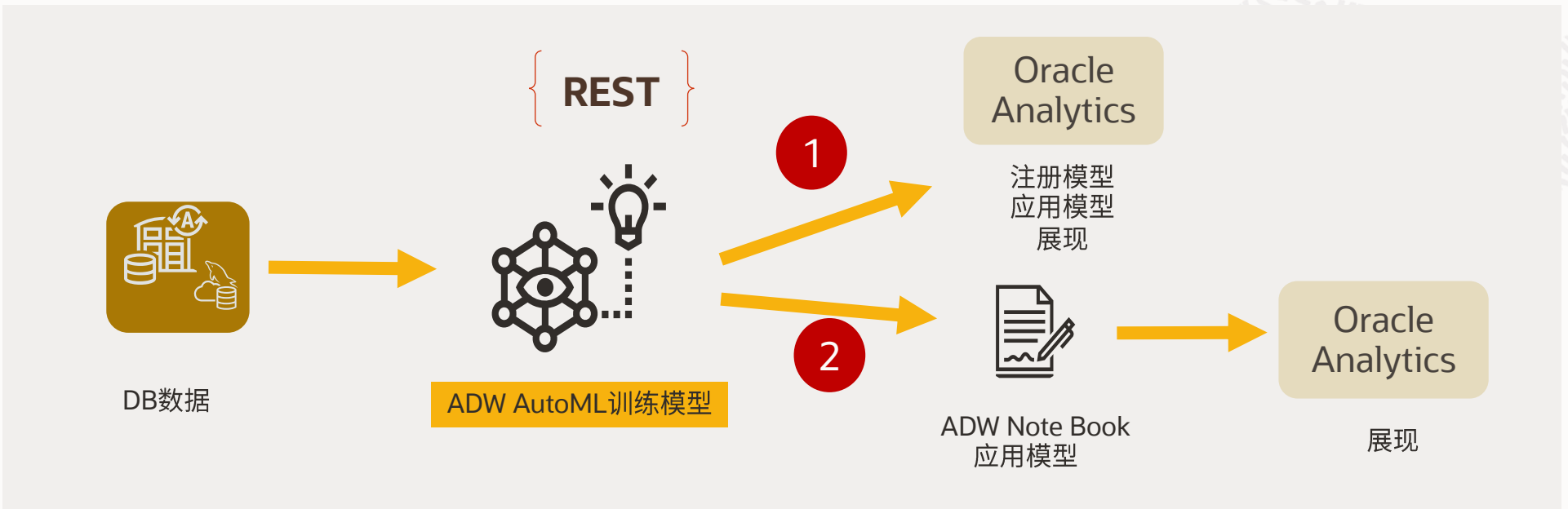
Data Flow **Auto ML**

The screenshot displays the Oracle Analytics Auto ML interface. On the left, a search bar and a list of data flow operations are visible. The main workspace shows a data flow starting with 'iris_sep19', followed by an 'AutoML' step (highlighted with a red box). Below the 'AutoML' step, a list of model training options is shown, with 'AutoML' selected (highlighted with a red box). The right panel shows the 'AutoML' configuration details, including the 'Model Training Script' (Regression - AutoML for ADW connections), the 'Target' (SEPAL_WIDTH), the 'Mining Function' (Regression), and the 'Score Metric' (Neg Mean Abs Err). A table of data is displayed at the bottom right.

99	SEPAL_LENGTH	99	SEPAL_WIDTH	99	PETAL_LENGTH	99	PETAL_WIDTH	ab	SPECIES
5.1		3.5		1.4		0.2			setosa
4.9		3		1.4		0.2			setosa
4.7		3.2		1.3		0.2			setosa
4.6		3.1		1.5		0.2			setosa
5		3.6		1.4		0.2			setosa
5.4		3.9		1.7		0.4			setosa
4.6		3.4		1.4		0.3			setosa
5		3.4		1.5		0.2			setosa
4.4		2.9		1.4		0.2			setosa
4.9		3.1		1.5		0.1			setosa
5.4		3.7		1.5		0.2			setosa



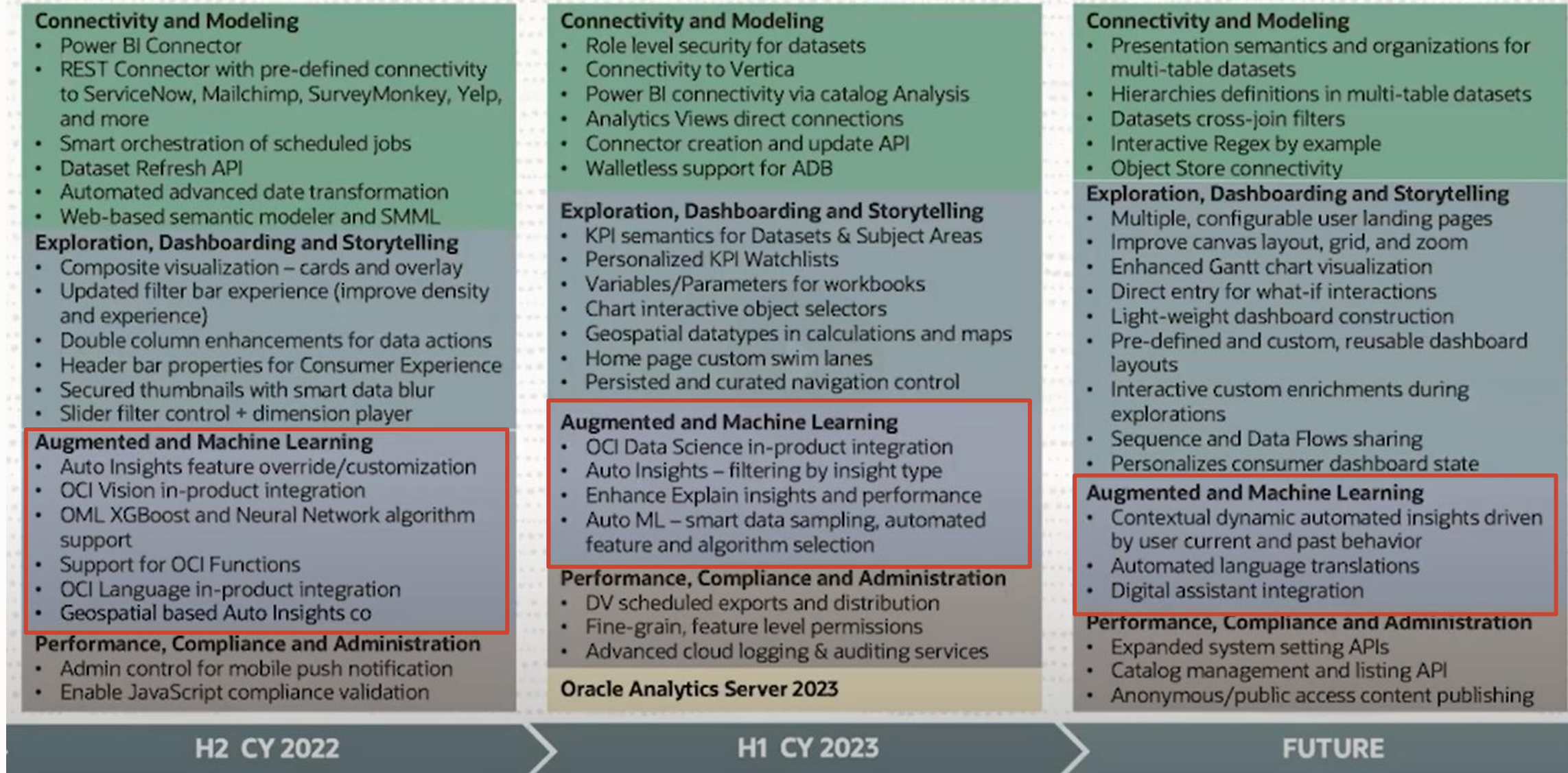
Oracle 机器学习途径



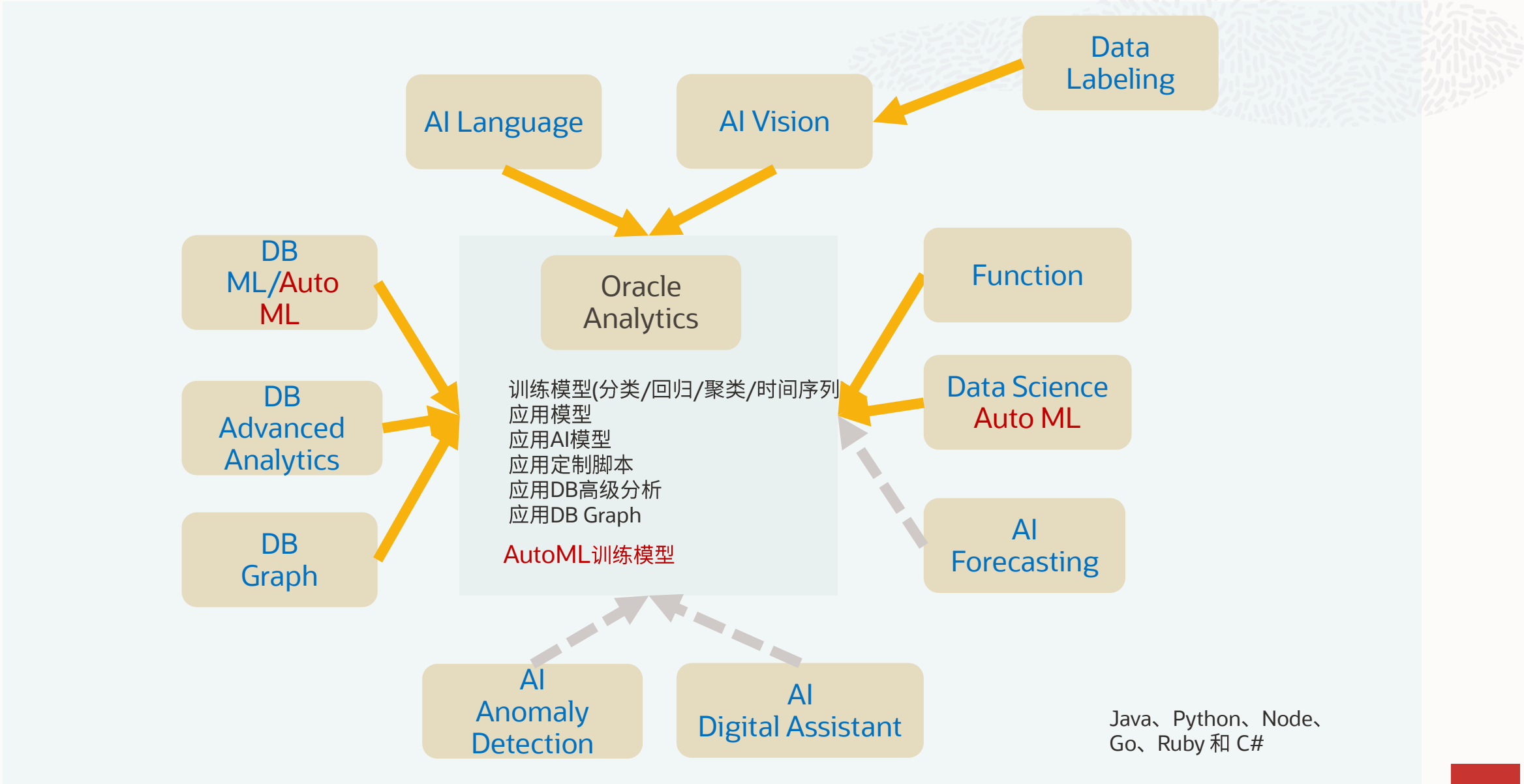
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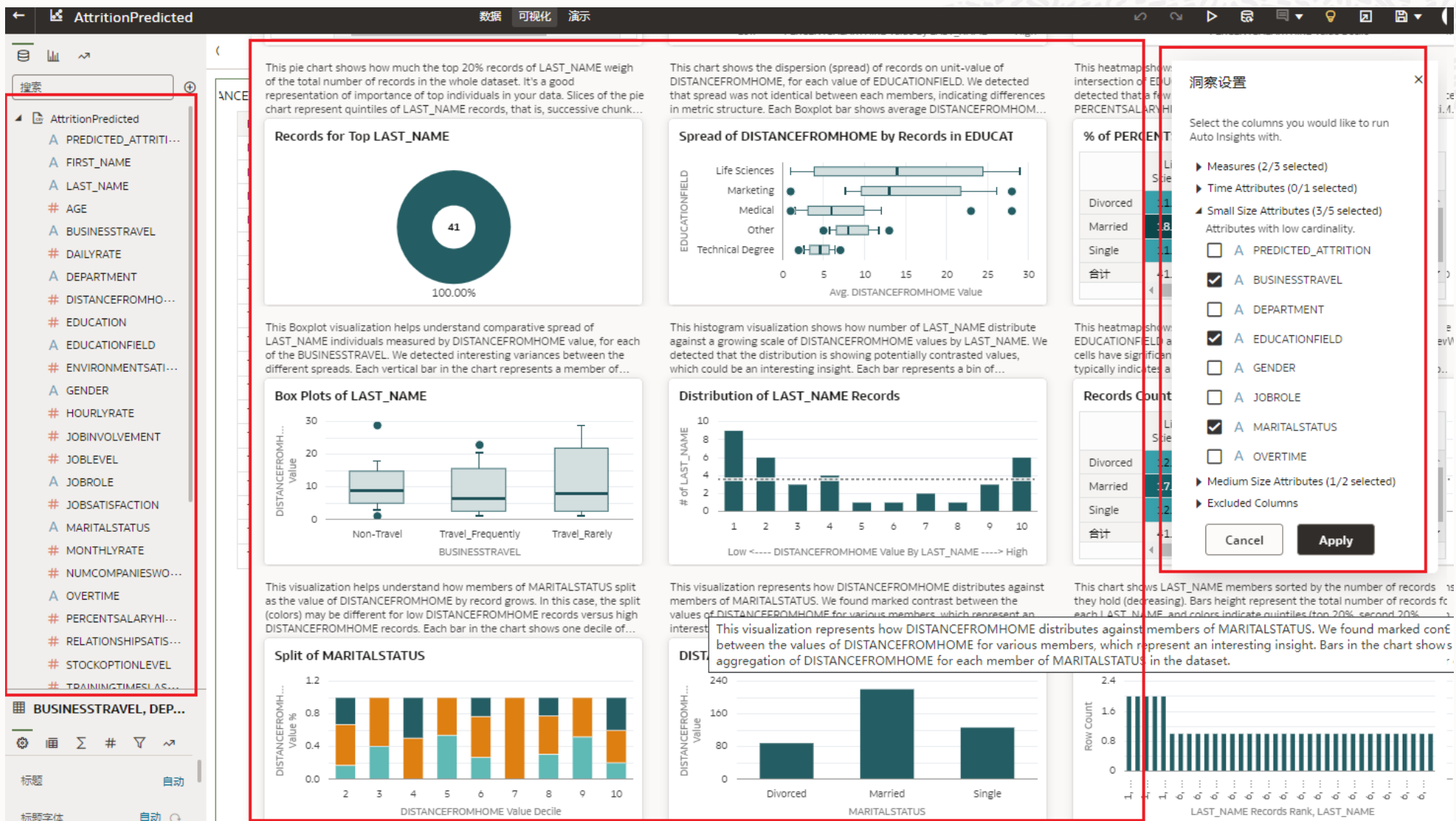
Oracle 分析平台OAC/OAS新特性



Oracle 分析平台集成能力

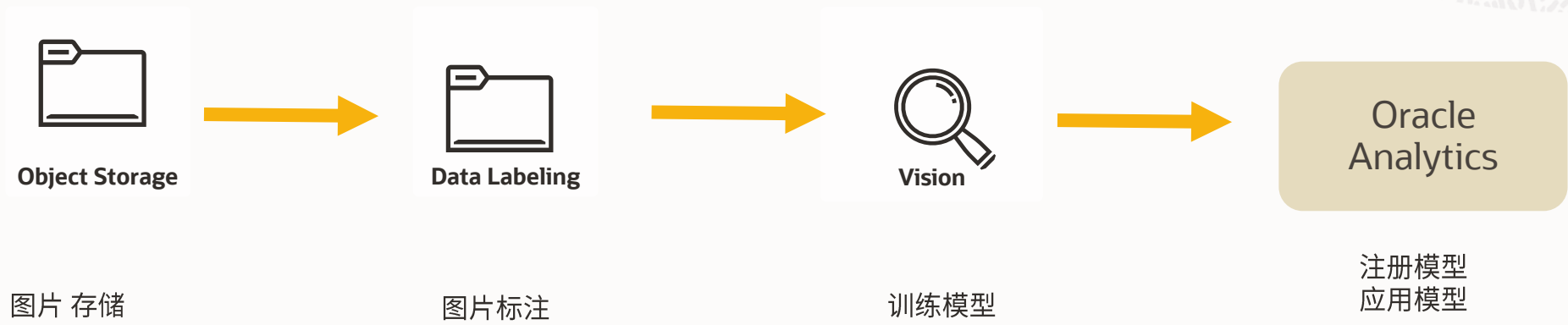


AI自动洞察(自定义能力)



Oracle 分析平台OAC/OAS新特性

与AI Vision集成，实现AI图片分类与对象检测



Create dataset		
Name	Type	Annotation class
samParking	Image	Object Detection
SamWheat	Image	Multiple Label

Models in samVision

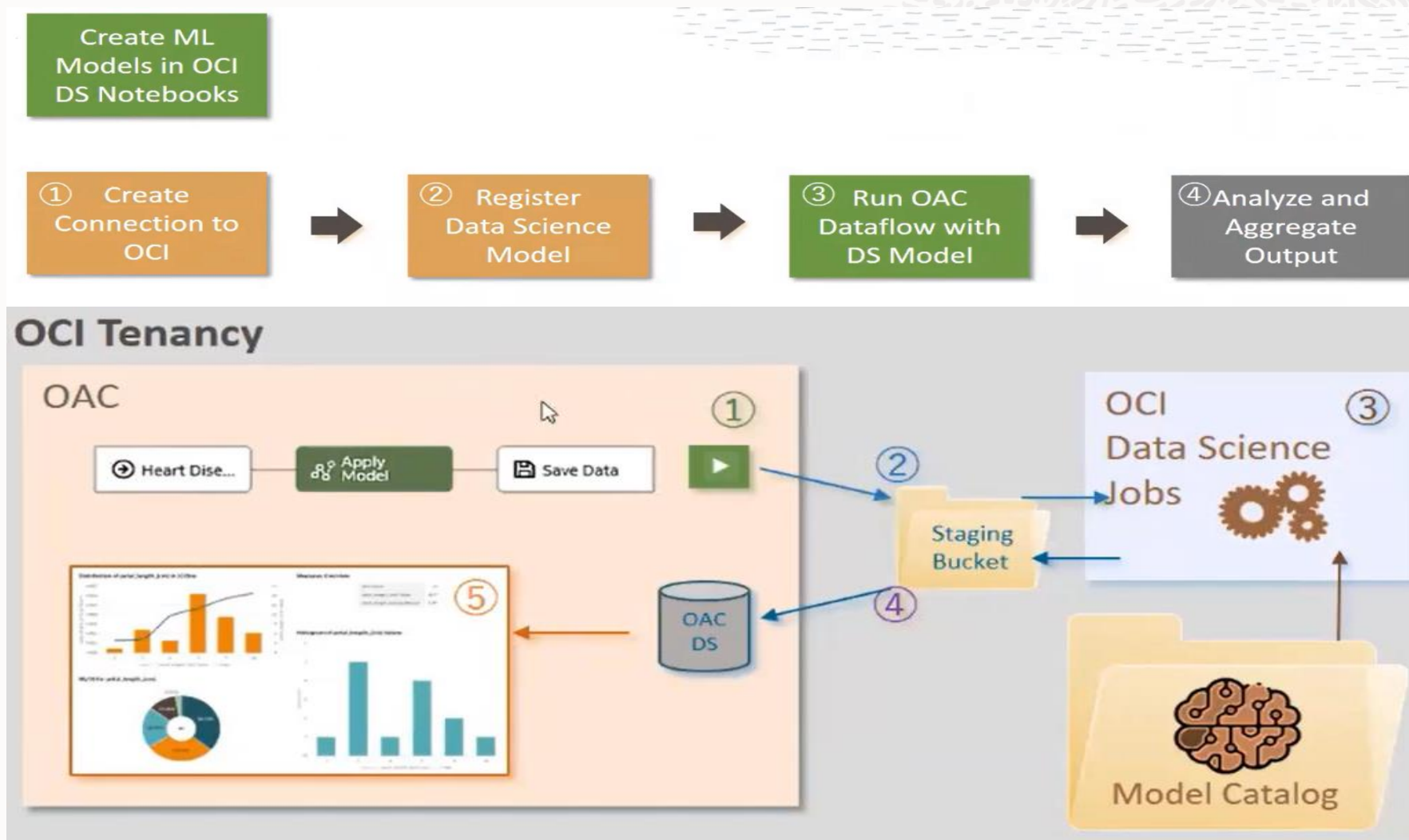
Create Model		
Name	State	Model type
SamModelParking	● ACTIVE	OBJECT_DETECTION
samwheatmodel	● ACTIVE	IMAGE_CLASSIFICATION

选择模型			
搜索			
类型	模型	项目	功能
	Pretrained Image Classification	None (Pretrained)	Image Classification
	Pretrained Image Text Detection	None (Pretrained)	Image Text Detection
	Pretrained Object Detection	None (Pretrained)	Object Detection
	SamModelParking	samVision	Object Detection
	samwheatmodel	samVision	Image Classification
取消 注册			



Oracle 分析平台OAC/OAS新特性

与Data Science集成



Oracle 分析平台OAC/OAS新特性

与AI Language集成

Apply AI Model

Model: Pretrained Sentiment Analysis

► Outputs

◀ Parameters

* Input Column: Review Text
Select text column from source dataset

Analysis Level: Aspect
* Reference Column 1: Aspect
Reference Column 2: Aspect and Sentence
Second reference column included in output dataset

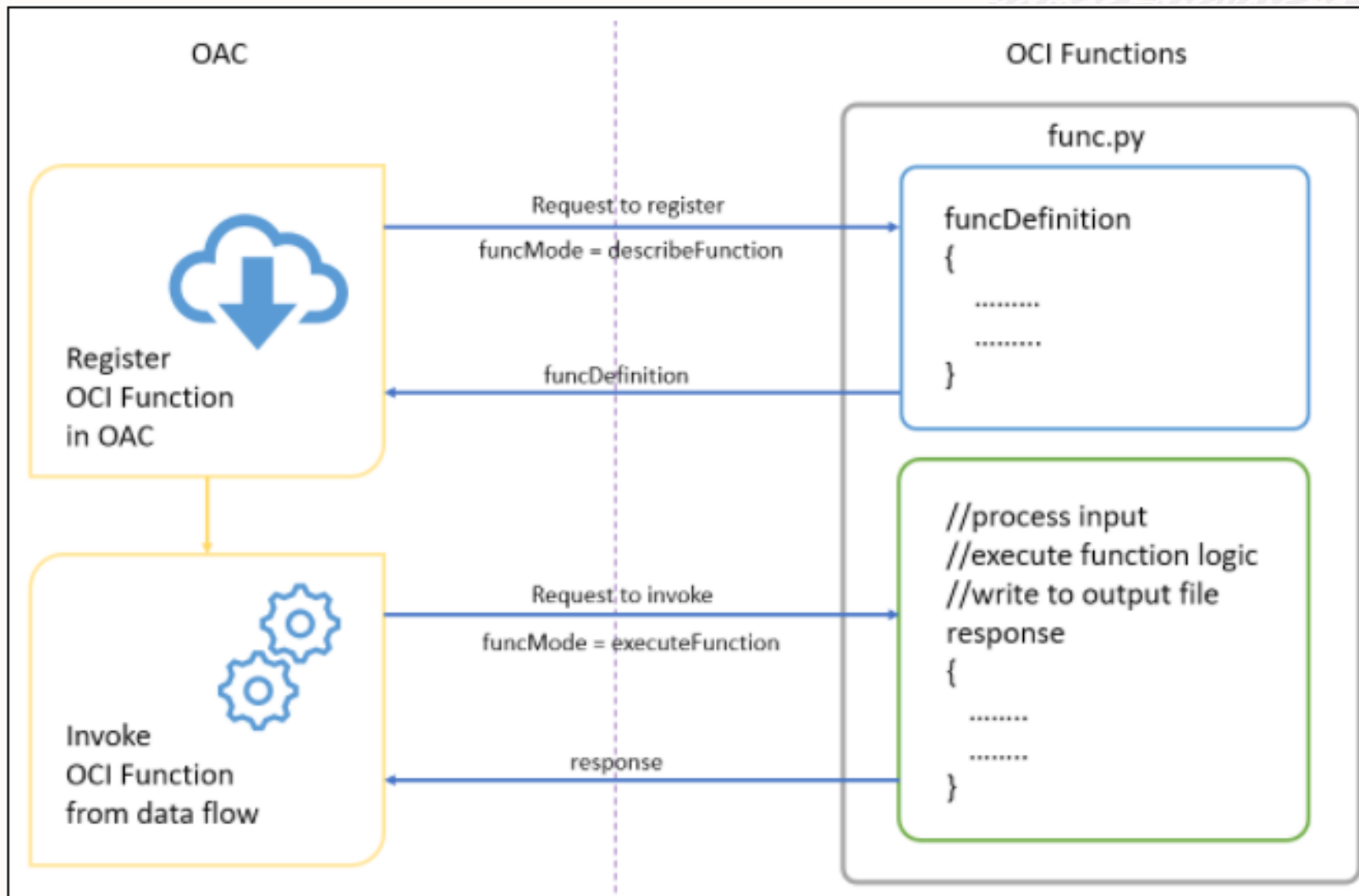
选择模型

类型	模型	项目	功能
📄	Pretrained Key Phrase Extraction	None (Pretrained)	Key Phrase Extraction
🔍	Pretrained Language Detection	None (Pretrained)	Language Detection
🔍	Pretrained Named Entity Recognition	None (Pretrained)	Named Entity Recogn...
😊	Pretrained Sentiment Analysis	None (Pretrained)	Sentiment Analysis
🔍	Pretrained Text Classification	None (Pretrained)	Text Classification

99 Longitude	📅 Review Date	99 Review Rating	ab Review Text	99 Review Length	ab Review Title
-86.217585999999	10/31/2014	2	Arrived early, but room was not ready. Was disappointed to see that the pool was shu...	522	Could be better
-86.217383999999	01/03/2014	3	Good motel for the price (50). Was traveling through about midnight and all of the su...	326	Worn but cheap and clean!
-122.74029	12/13/2014	4	The rooms were comparable to those at hotel/motel chains costing significantly more...	247	Nice room, reasonable rates.
-83.933687	07/26/2014	4	Budget-minded travelers appreciate amenities like complimentary breakfast buffet a...	602	Good nights rest
99999 -87.107952999999	10/21/2014	2	Editorial Review by Citysearch Editors Economy lodging features smoking and nonsm...	159	Rude
99999 -71.56098	02/15/2014	4	I have stayed there several times in the winter to snow mobile and summer to hike an...	400	stayed there
.3 -89.128808449999	07/08/2014	1	A lodging staple for budget-minded road-trippers and business travelers. In ShortSin...	587	Unethical
-86.217383999999	08/08/2014	3	We were heading to Montgomery to check out Hank Williams' museum and wanted to...	351	wouldn't go back !!
-93.211799999999	08/18/2014	1	First of all, this is a Conference Center run by the Arkansas Tech University at Russell...	364	Flunking out at Lake Point

Oracle 分析平台OAC/OAS新特性

与OCI Function集成

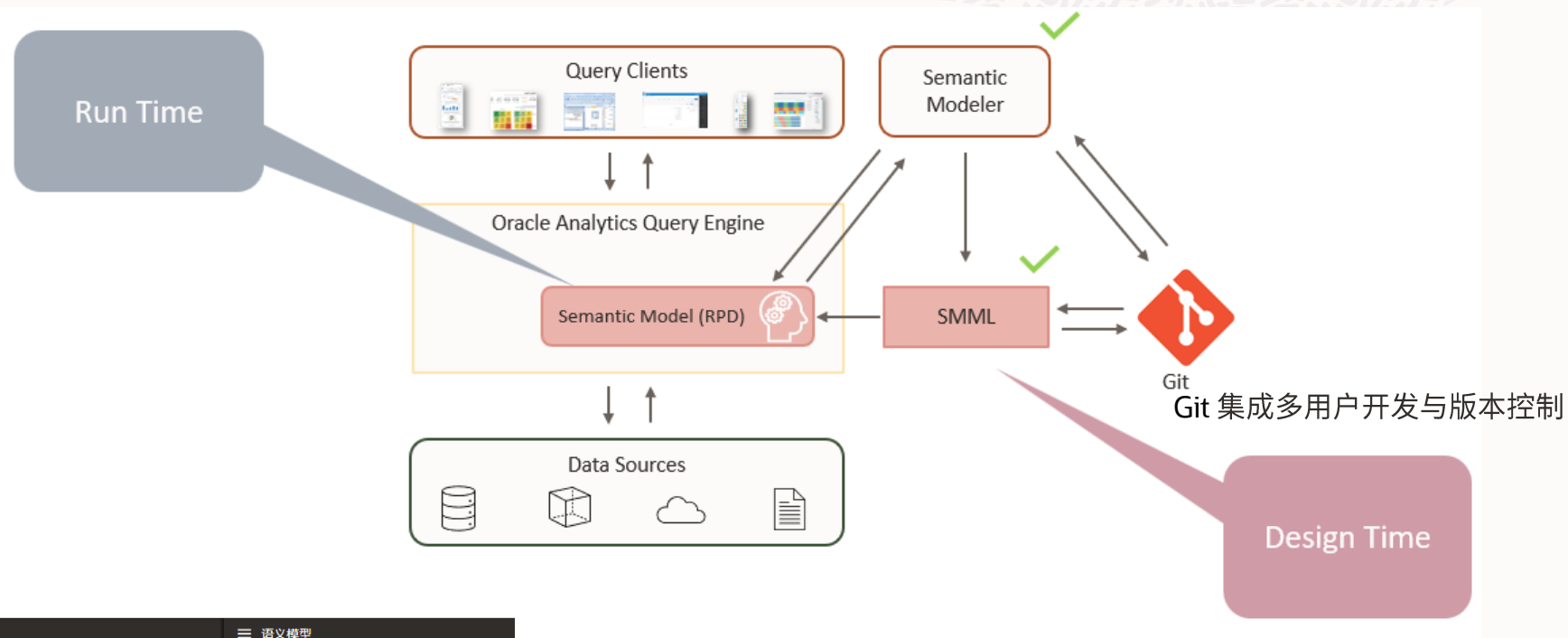
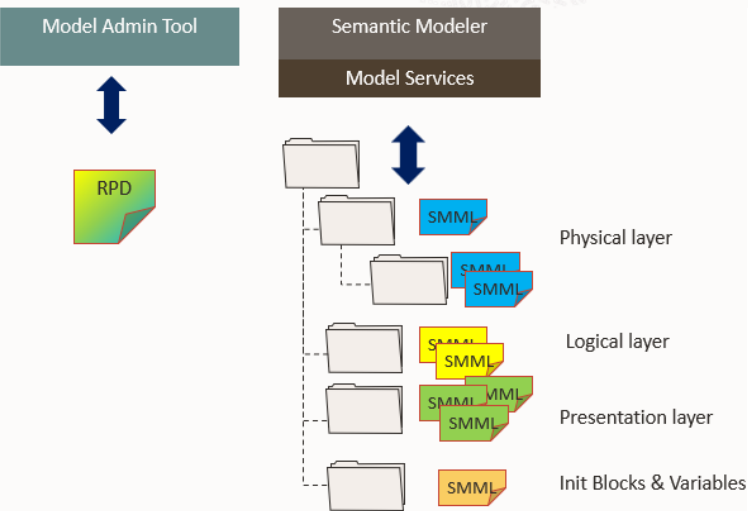


Java、Python、Node、
Go、Ruby 和 C#

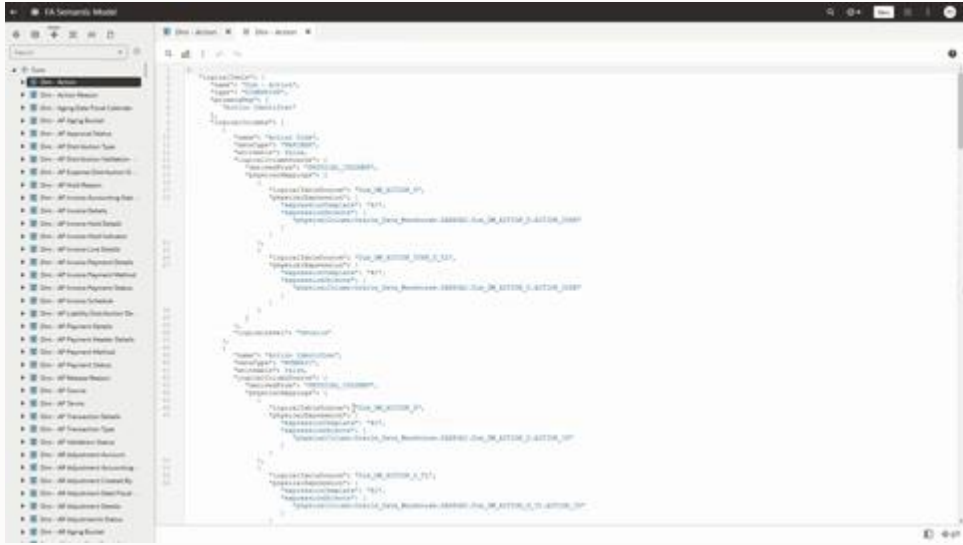
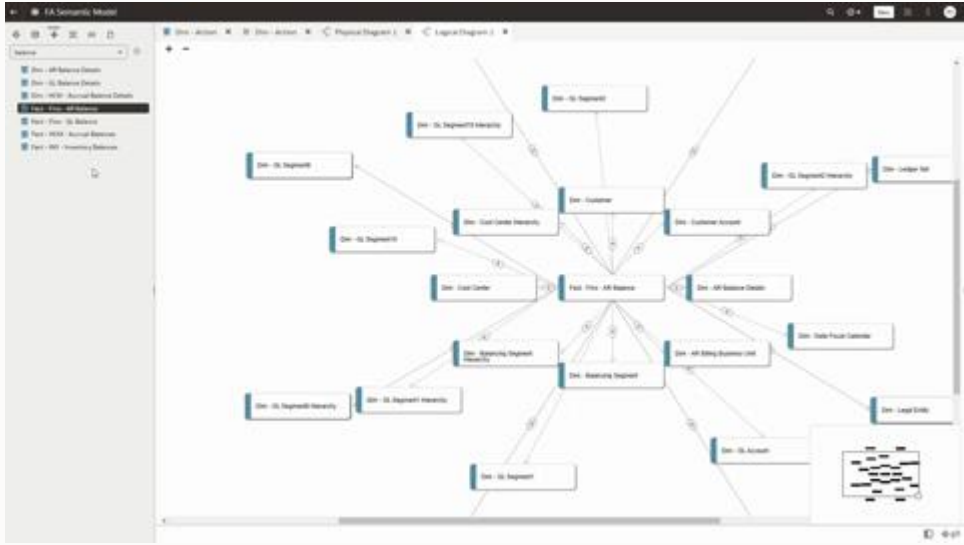
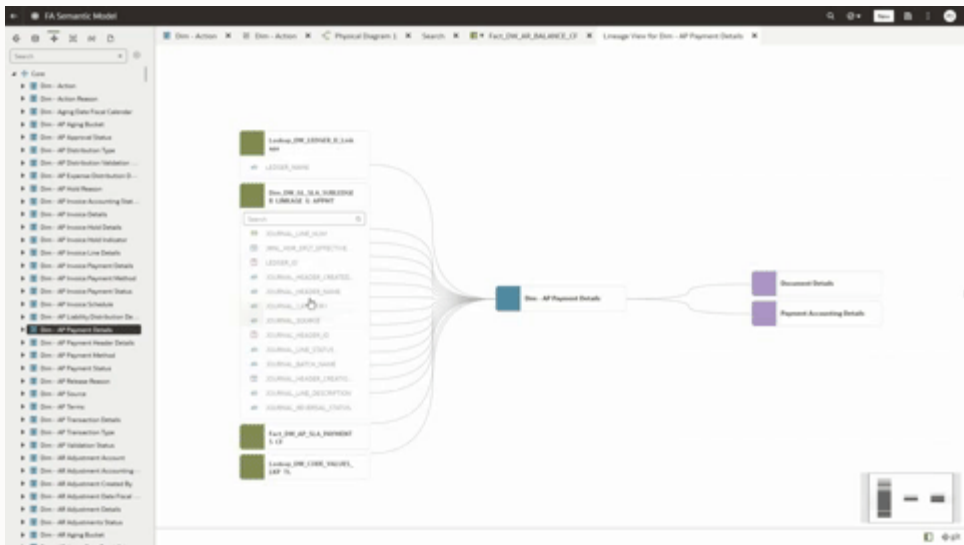


Oracle 分析平台OAC/OAS新特性

语义模型标记语言 (SMML) 是一种基于 JSON 的标记语言，Semantic Modeler Markup Language(SMML)



Oracle 分析平台OAC/OAS新特性



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议程

3

机器学习与AI案例

案例 1：AI图片分类 (智能质检、表面缺陷、固定点位缺陷)

案例 2：AI对象检测 (安全巡检、车辆停留、电力安全)

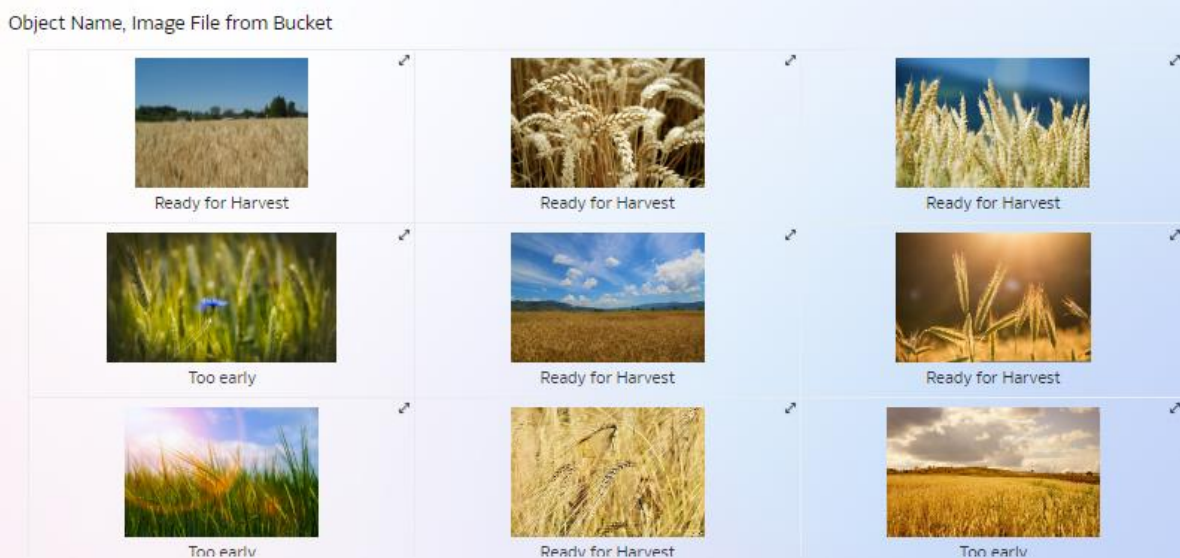
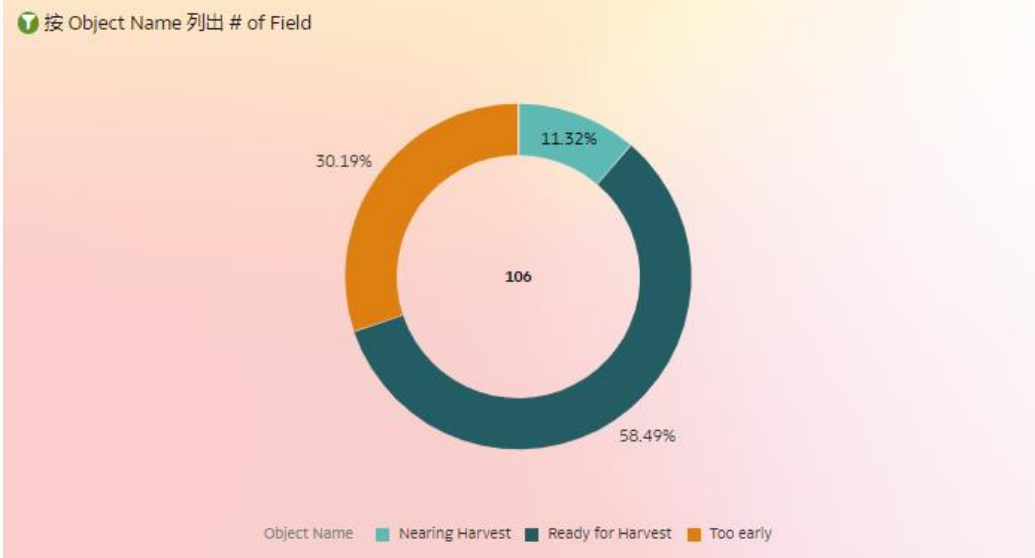
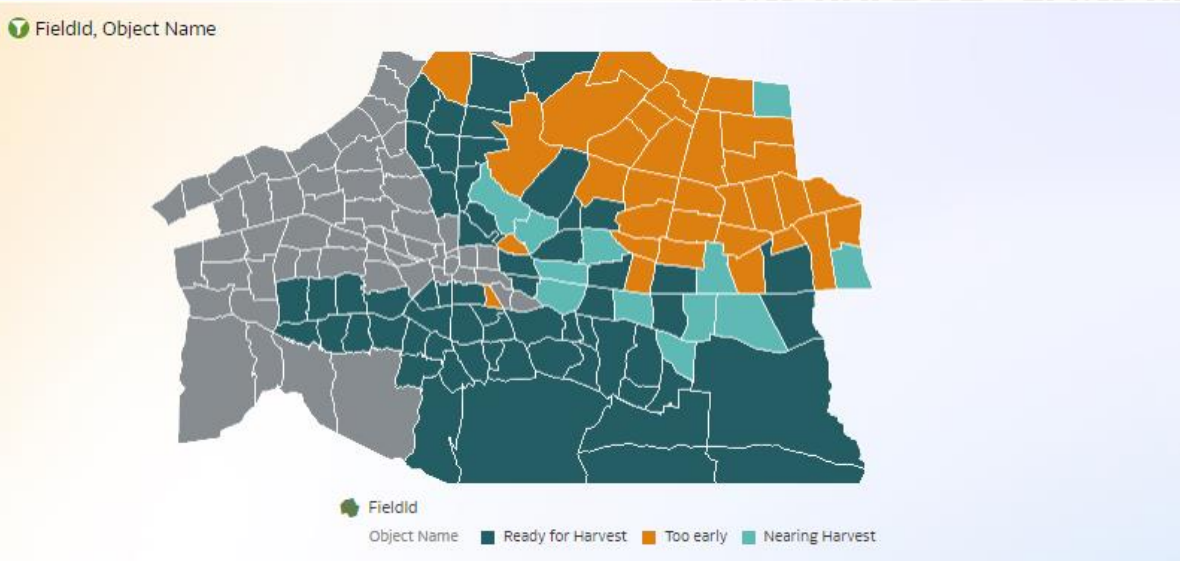
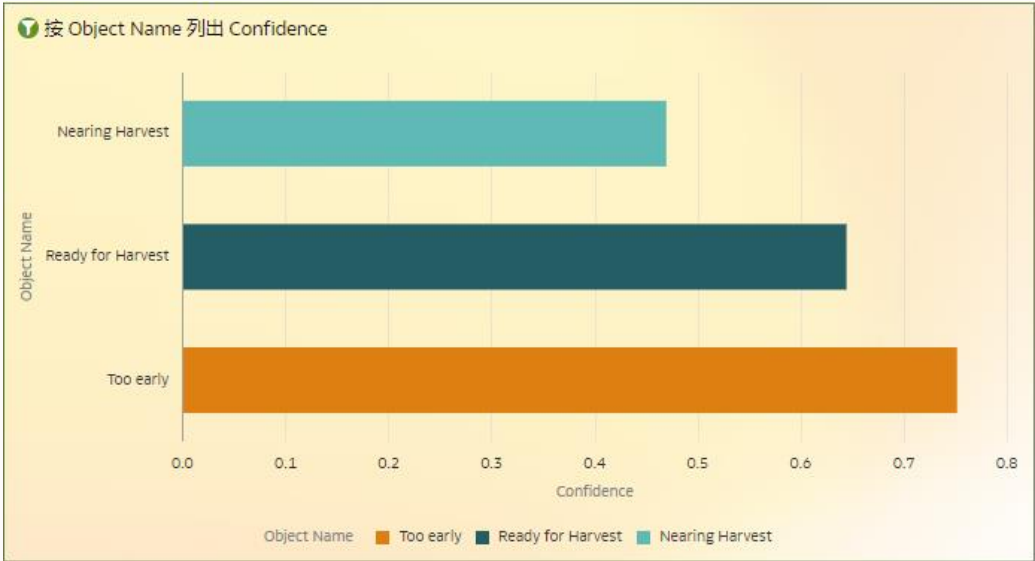
案例 3：客户精准分群，产品级联销售预测

案例 4：大学招生预测

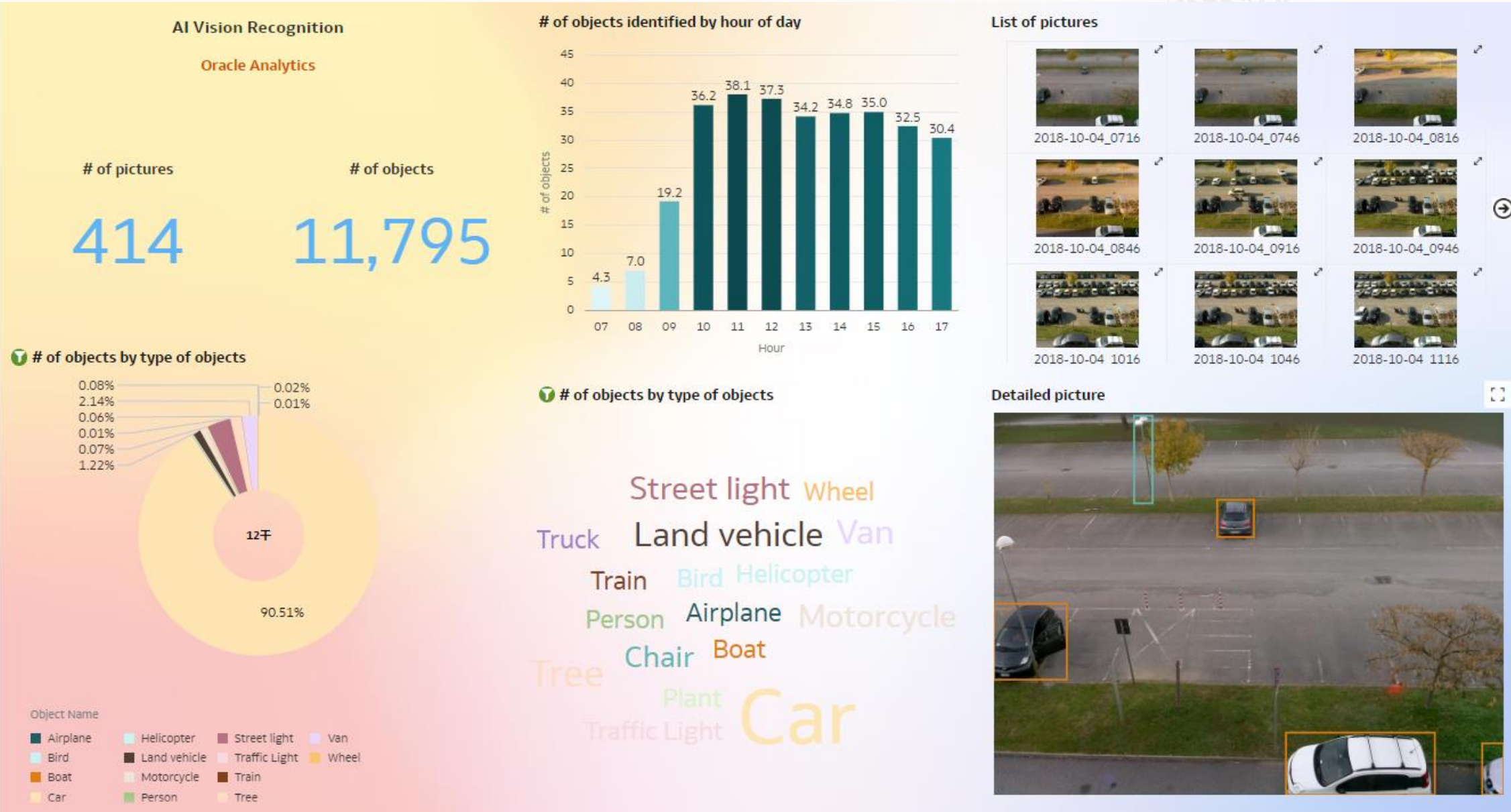
案例 5：价格预测

案例 6：优惠券预测

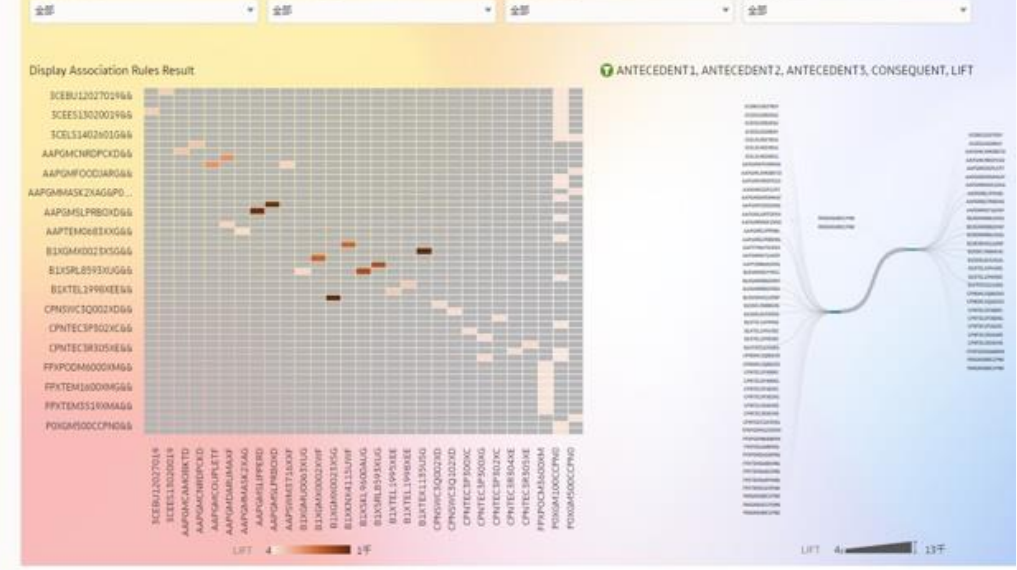
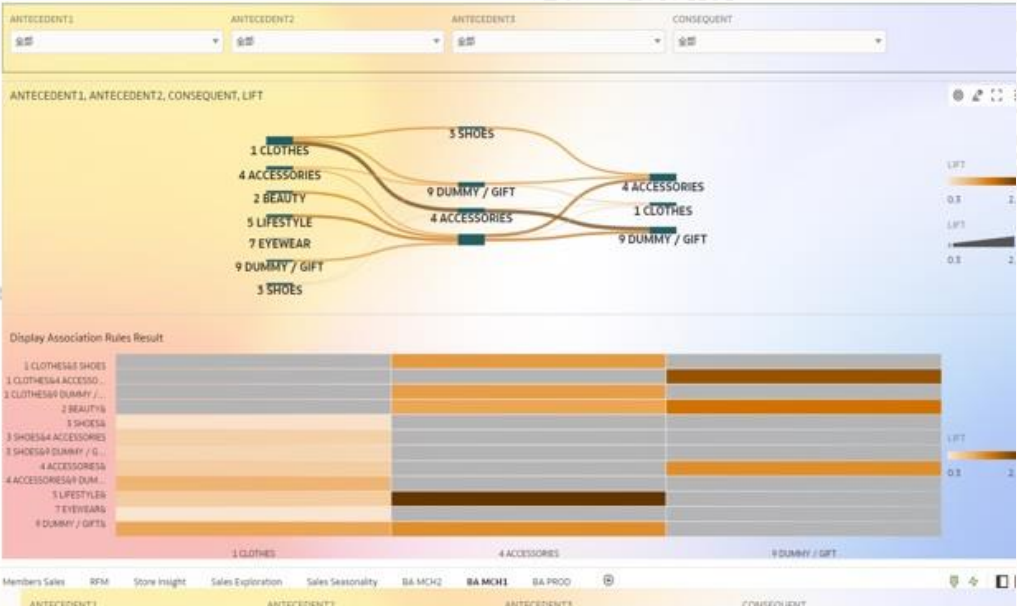
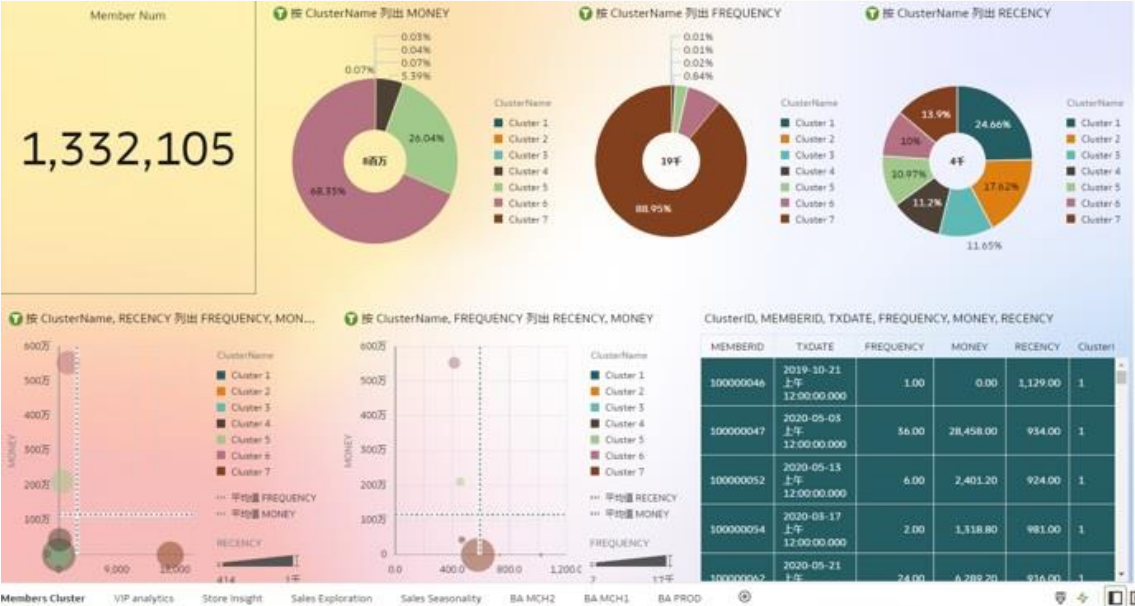
案例 1：AI图片分类(应用领域：智能质检、表面缺陷、固定点位缺陷)



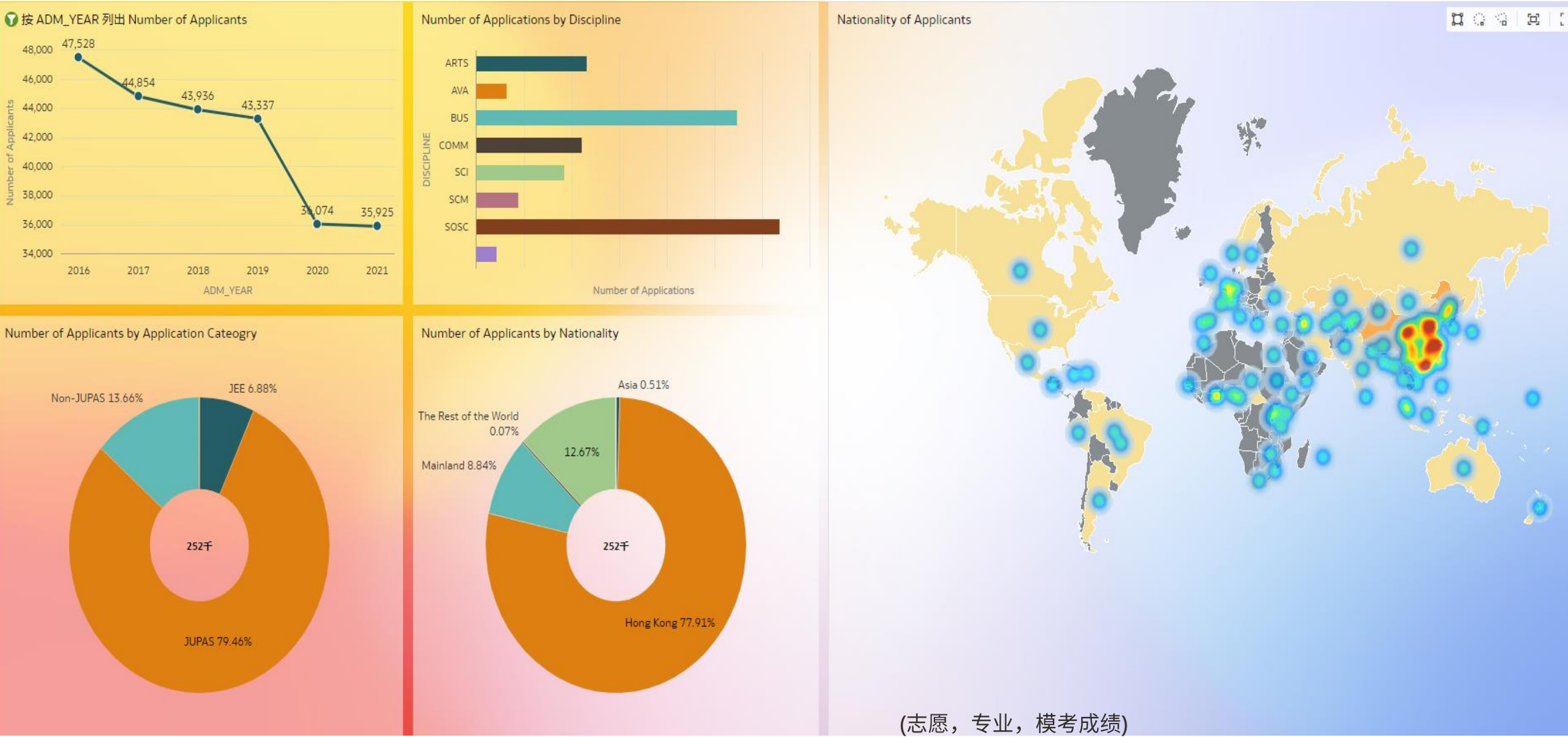
案例 2：AI对象检测 (应用领域：安全巡检、车辆停留、电力安全)



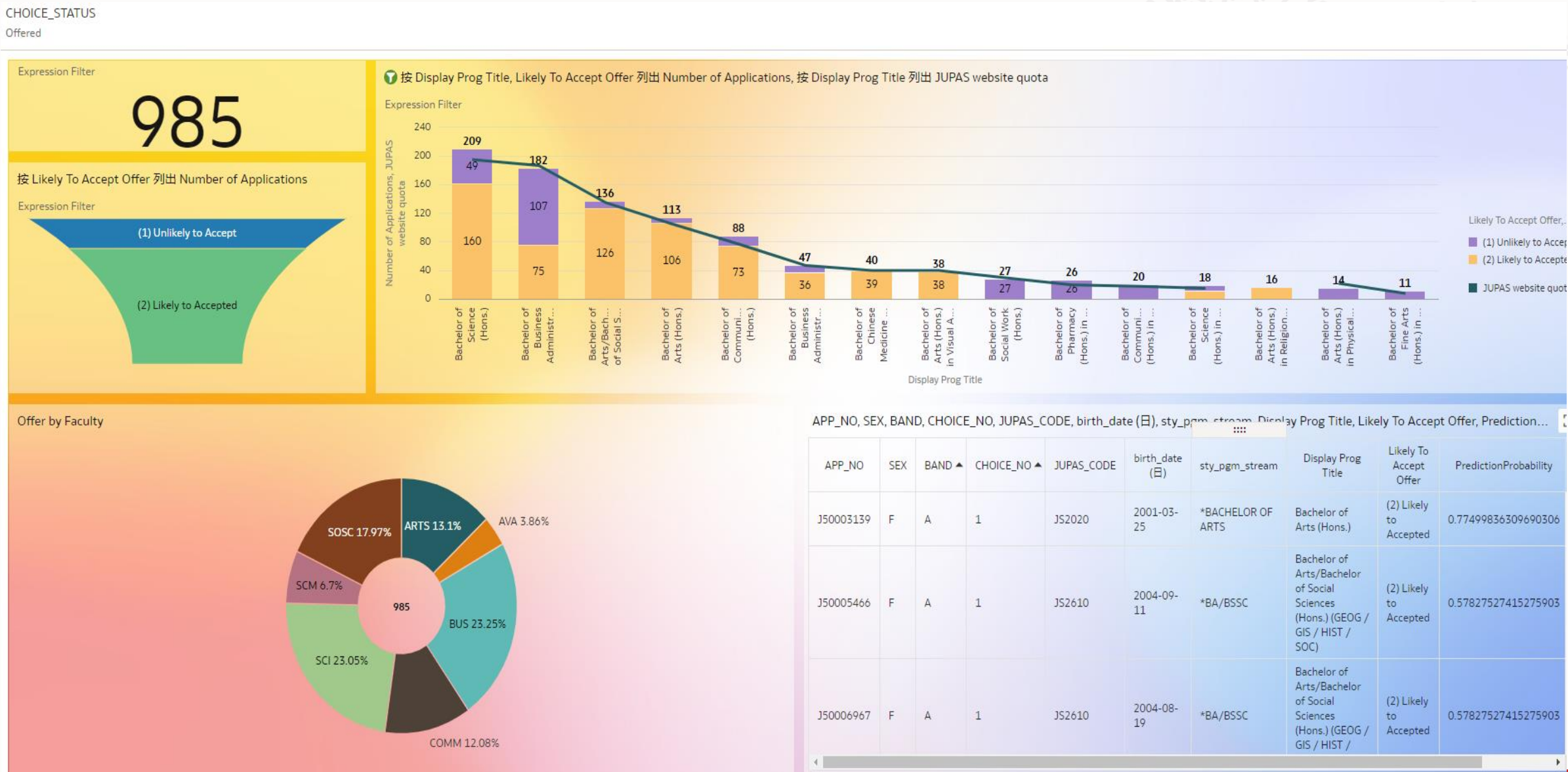
案例 3：客户精准分群，产品级联销售预测



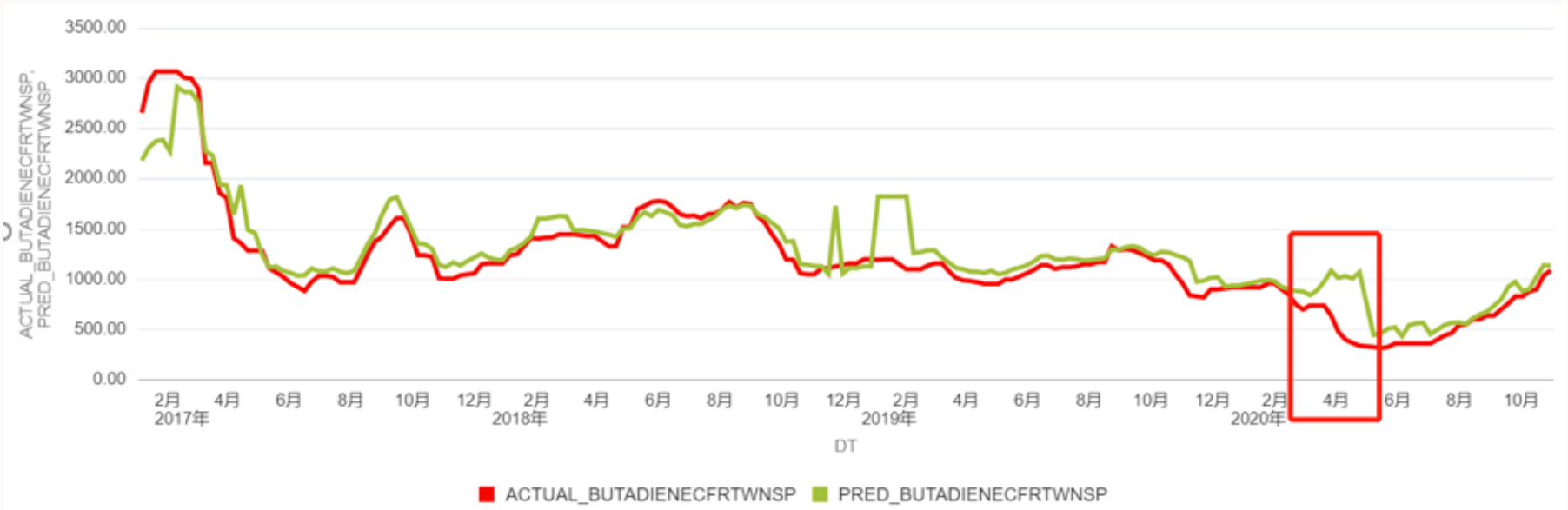
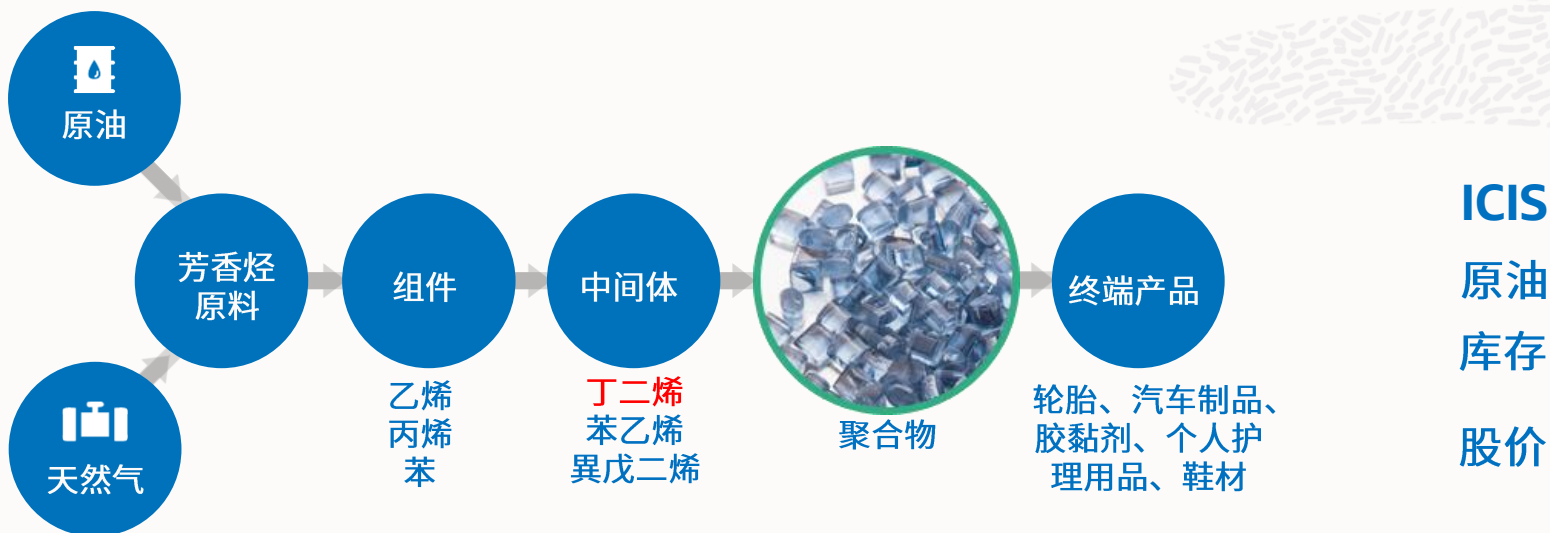
案例 4：大学招生预测



案例 4：大学招生预测



案例 5：价格预测



案例 5：价格预测

总体平均误差率

15.45%

一个标准差率

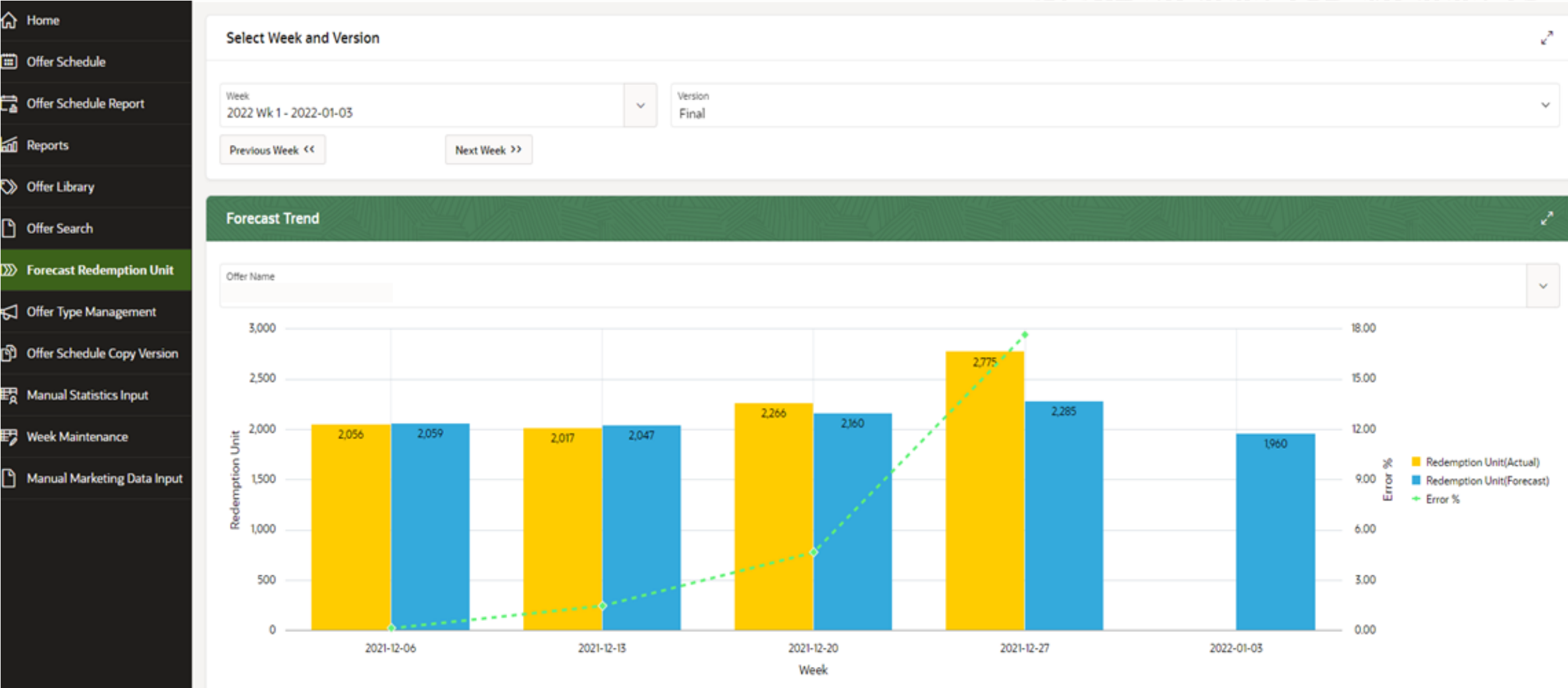
0.88

BATCHID	W1	W2	W3	W4	W5	W6	W7	W8
1	17.92%	21.94%	22.59%	22.17%	25.85%	24.93%	23.66%	23.48%
2	4.67%	5.55%	3.55%	4.62%	6.94%	16.65%	42.49%	16.23%
3	13.67%	3.03%	0.96%	5.46%	5.89%	10.40%	11.96%	17.56%
4	13.71%	4.37%	4.11%	8.19%	10.89%	9.57%	11.75%	9.68%
5	7.83%	6.38%	14.89%	17.19%	12.95%	3.84%	3.96%	9.29%
6	8.94%	6.47%	13.15%	11.70%	16.35%	9.45%	12.71%	14.93%
7	9.35%	4.94%	3.22%	2.89%	3.94%	5.24%	2.37%	1.28%
8	14.22%	13.41%	14.15%	12.48%	12.18%	2.67%	3.58%	3.90%
9	3.20%	5.78%	8.71%	7.09%	0.95%	2.48%	6.43%	4.79%
10	7.85%	6.57%	7.27%	6.09%	6.49%	7.26%	6.20%	4.54%
11	3.75%	2.97%	0.14%	2.05%	0.27%	1.18%	0.94%	0.99%
12	3.56%	7.74%	11.77%	14.64%	15.63%	8.69%	9.04%	8.01%
13	1.82%	6.68%	53.19%	8.01%	3.96%	5.24%	6.93%	6.98%
14	52.62%	51.98%	51.98%	58.59%	66.05%	14.70%	15.64%	13.45%
15	11.23%	4.99%	8.14%	9.73%	11.23%	9.46%	10.95%	11.38%
16	13.83%	9.93%	6.70%	9.92%	8.53%	7.56%	7.61%	8.01%
17	8.51%	8.52%	6.66%	7.85%	6.35%	3.42%	3.61%	2.62%
18	3.32%	2.56%	0.36%	1.54%	3.16%	4.35%	2.82%	4.29%
19	7.13%	10.24%	18.31%	27.27%	41.06%	17.72%	20.43%	12.73%
20	13.52%	2.09%	1.90%	1.93%	3.75%	4.86%	7.37%	3.44%
21	2.17%	2.78%	6.24%	18.03%	25.57%	13.76%	20.38%	31.93%
22	69.69%	111.17%	158.48%	175.84%	215.26%	36.71%	46.06%	56.46%
23	45.36%	20.22%	50.58%	55.94%	56.89%	26.19%	23.52%	21.51%
24	5.44%	0.78%	1.77%	8.37%	6.00%	15.05%	14.21%	21.78%
25	17.30%	6.41%	2.47%	13.99%	9.63%	4.50%		

新冠疫情
爆发



案例 6：优惠券预测



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重新思考数据库架构设计： 面向微服务和分布式应用 程序开发

Oracle Cloud World系列



许光

- 资深解决方案工程师
- 10年+软件开发经验管理经验
- 5年多的系统设计经验

内容简介

如何基于Oracle数据库的相关技术让IT组织轻松的降低应用程序的复杂性,提高应用程序的开发速度,简化数据架构



直播时间：12月16日 11:00 - 12:00

扫描二维码注册并安装手机Zoom进入直播

Zoom ID: 976 6962 5763 密码: 98039717

ORACLE
甲骨文



数据库和云讲座群

20-19



甲骨文云技术公众号



技术专家1V1深入交流

