

**SAP TechEd:** <https://www.sap.com/events/teched.html>

November 2-3, 2023

- SAP TechEd Bangalore
- SAP TechEd Virtual



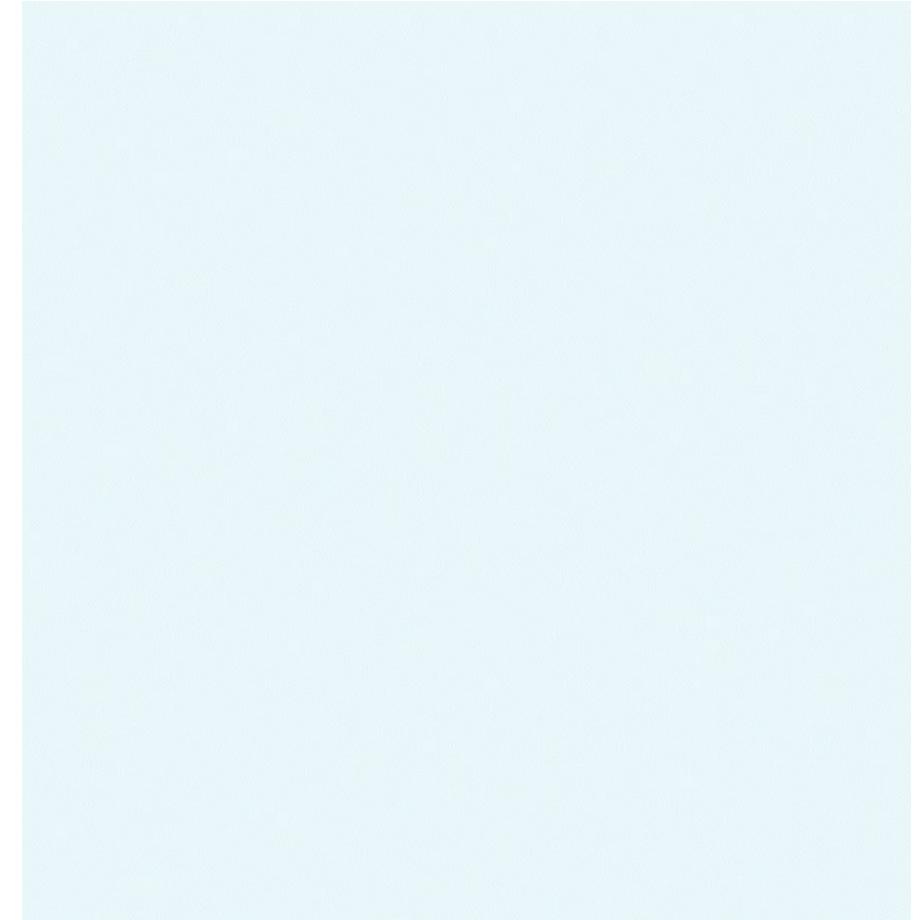
**SAPinsider Innovation & Technology Summit 2023:**  
<https://sapinsider.org/events/sapinsider-2023-technology-summit/>

14-16 November | Copenhagen

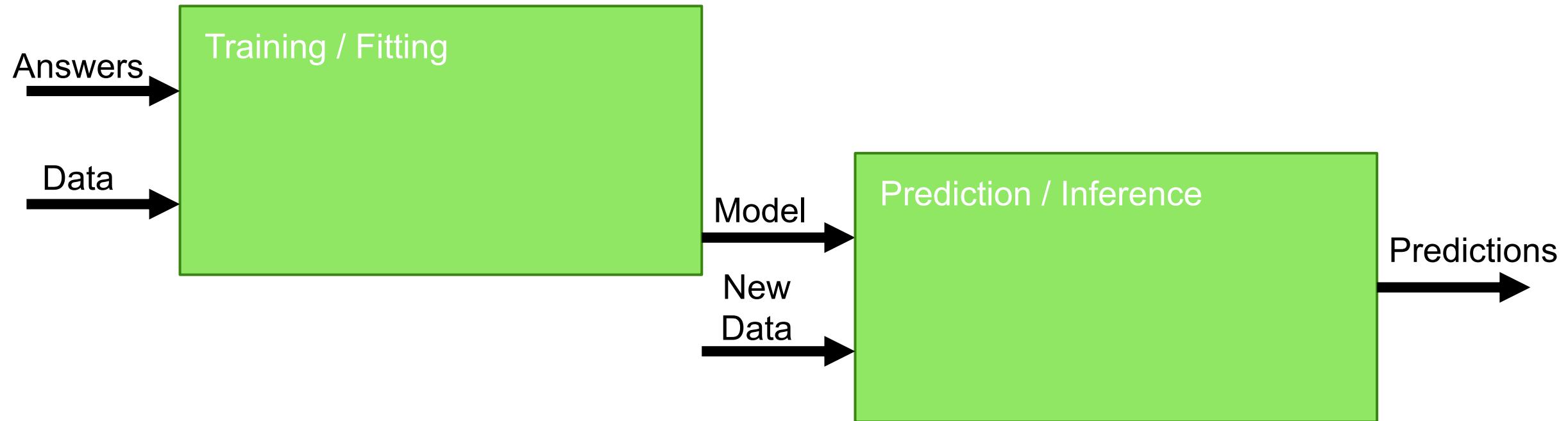
# Devtoberfest: <https://developers.sap.com/devtoberfest.html>

September 18 – October 13, 2023

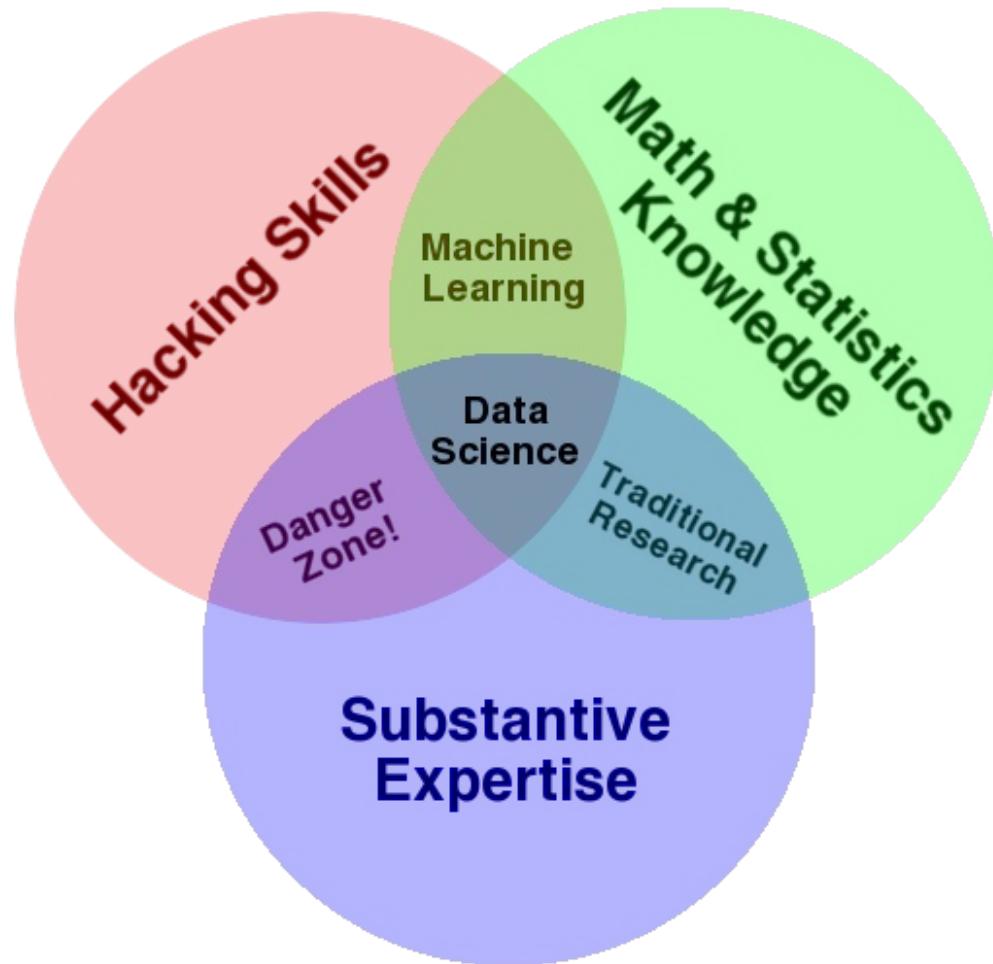
- ABAP & CAP
- Low-code/No-code
- Data, Analytics, & AI
- User Interface
- Integration Suite



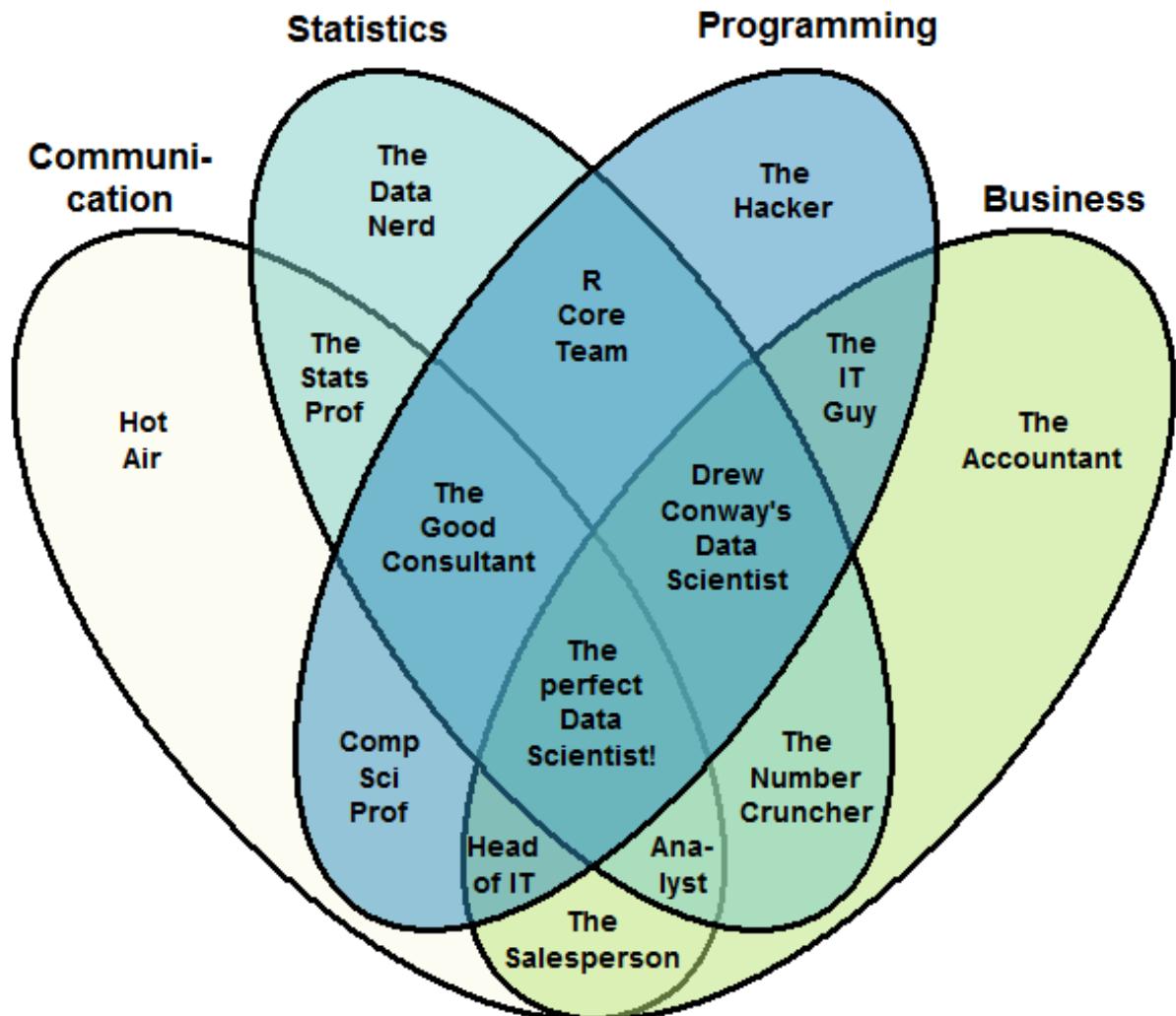
# Machine Learning



# Who is the Data Scientist?

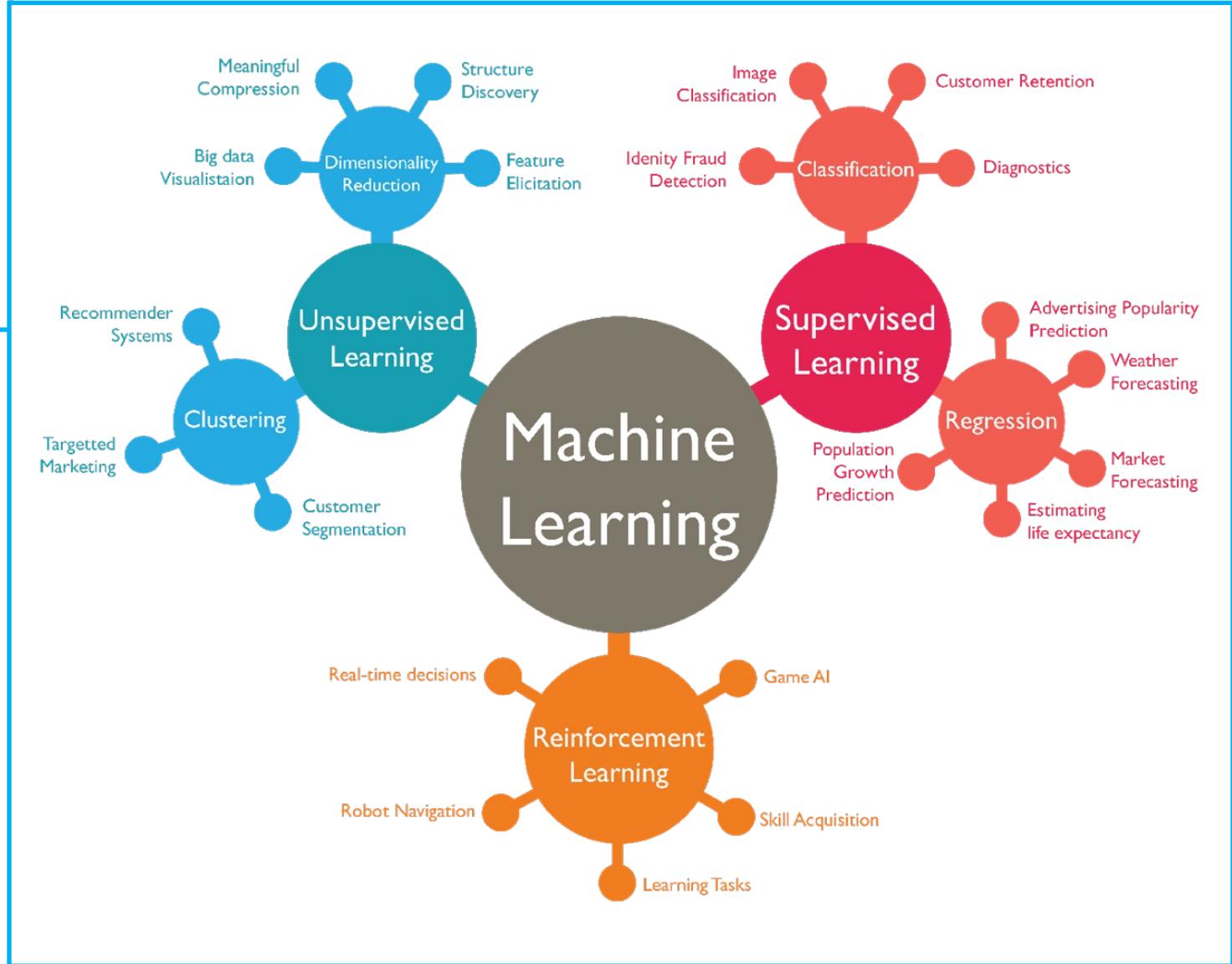
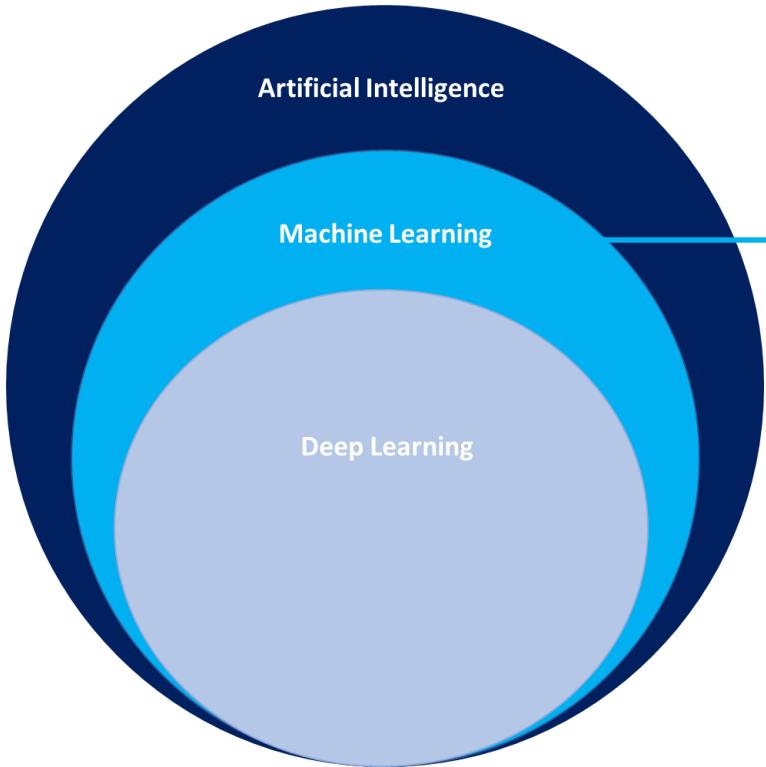


Drew Conway's Data Scientist Venn Diagram

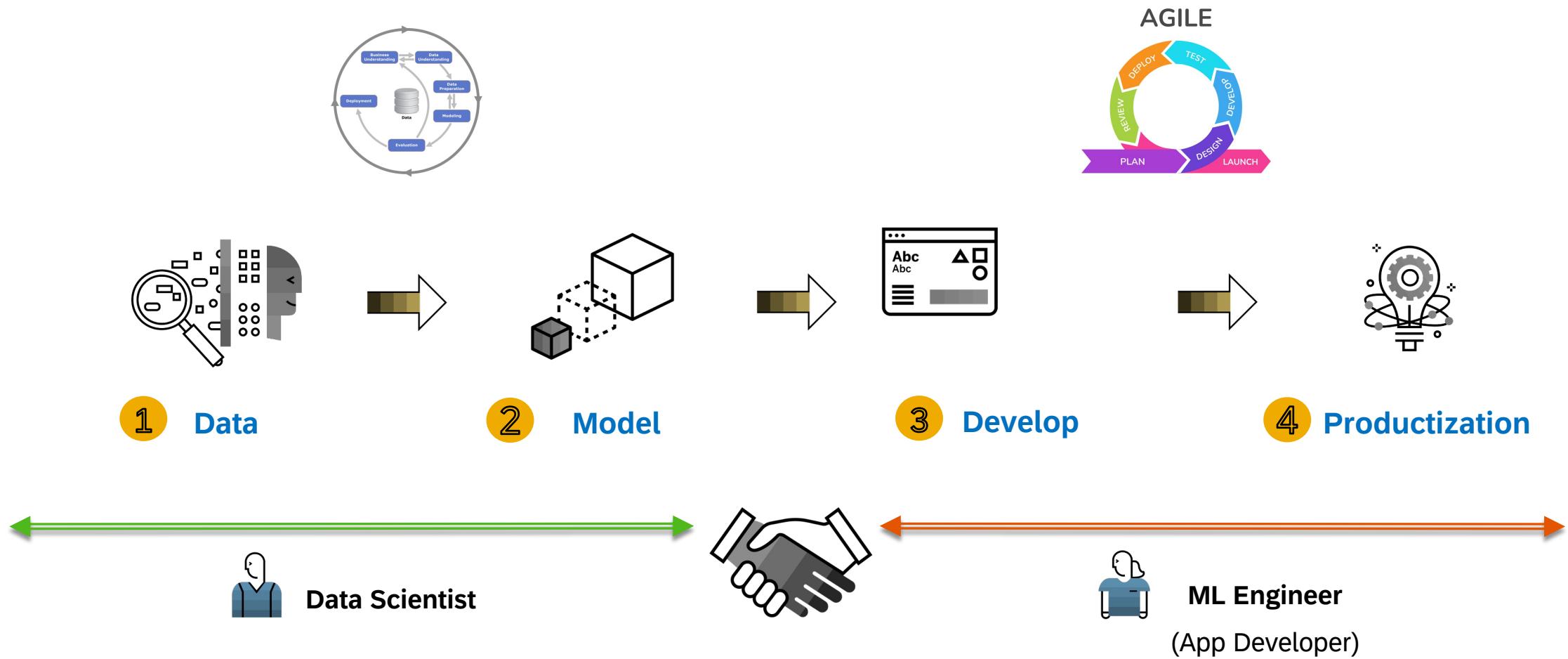


Stephan Kolassa's Data Scientist Venn Diagram

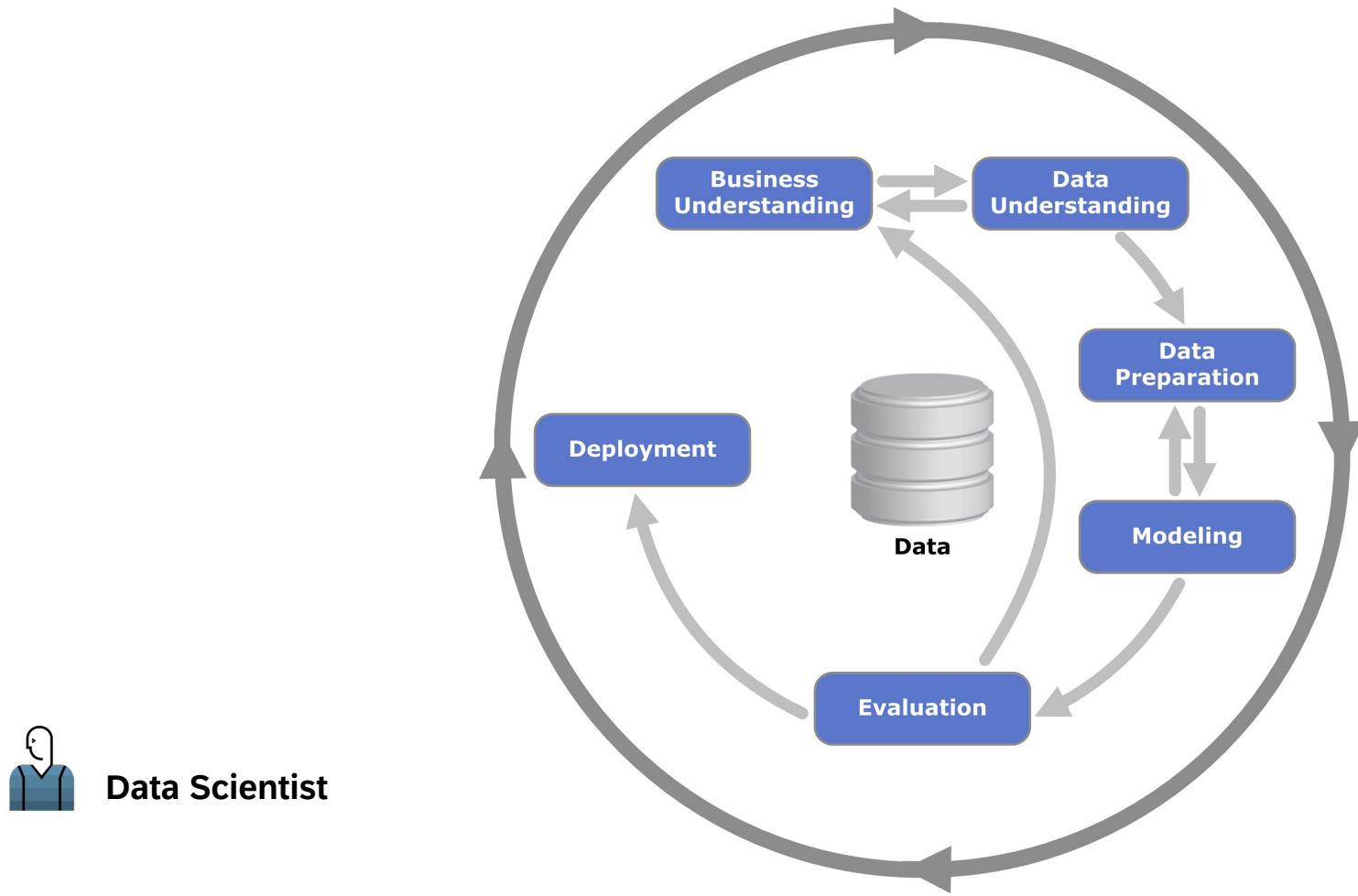
# Machine Learning Terminology



# Development Approach | Building an Intelligent Data Application



# Development Approach | Training a Model



# SAP Business AI approach

Relevant. Reliable. Responsible.

Finance | Supply Chain | HR | Procurement | Marketing and Commerce | Sales and Services | IT



A copilot that truly understands your business

## Embedded AI capabilities

Cloud ERP

Human capital management

Spend management  
and business network

Customer relationship  
management

Business Technology  
Platform

## AI Foundation

on Business Technology Platform

## AI ecosystem partnerships and investments



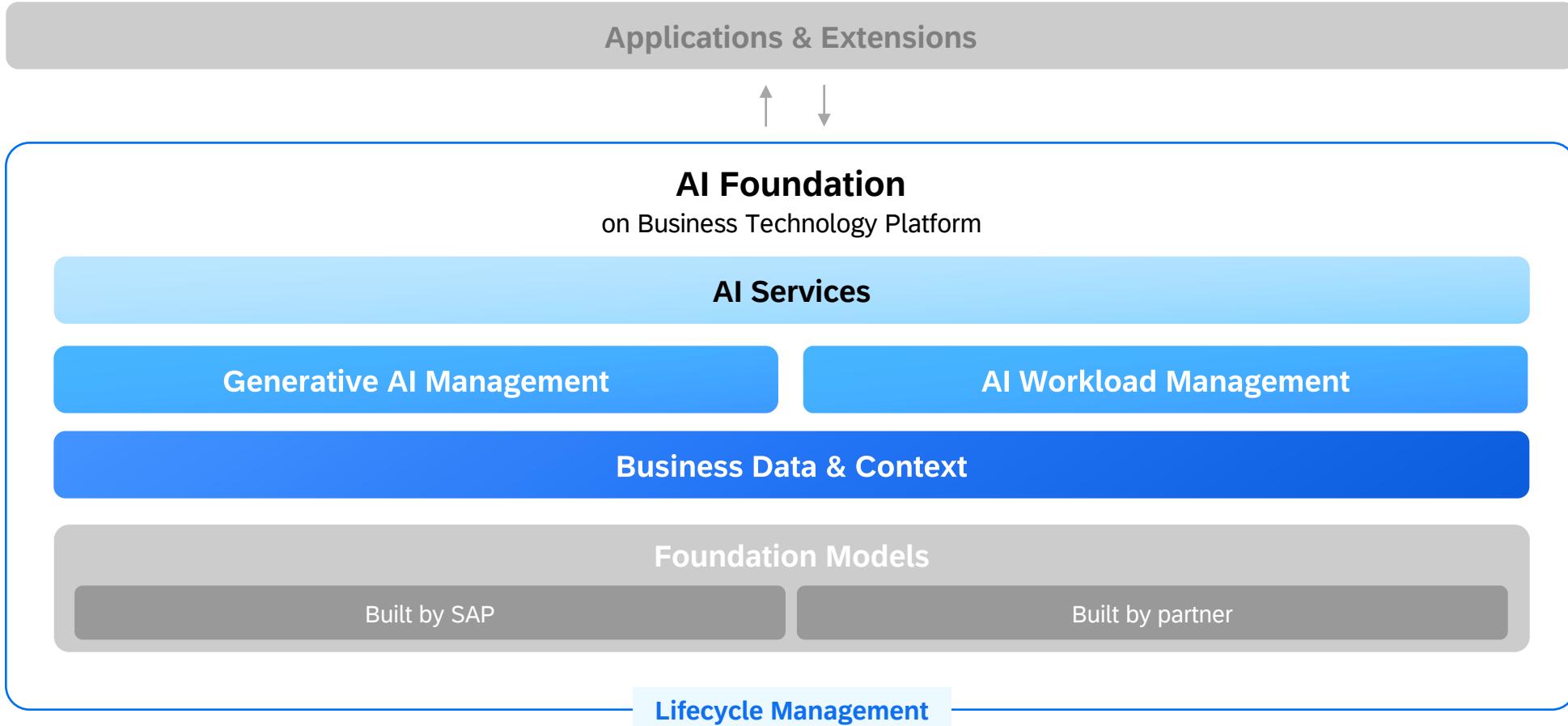
ANTHROPIC



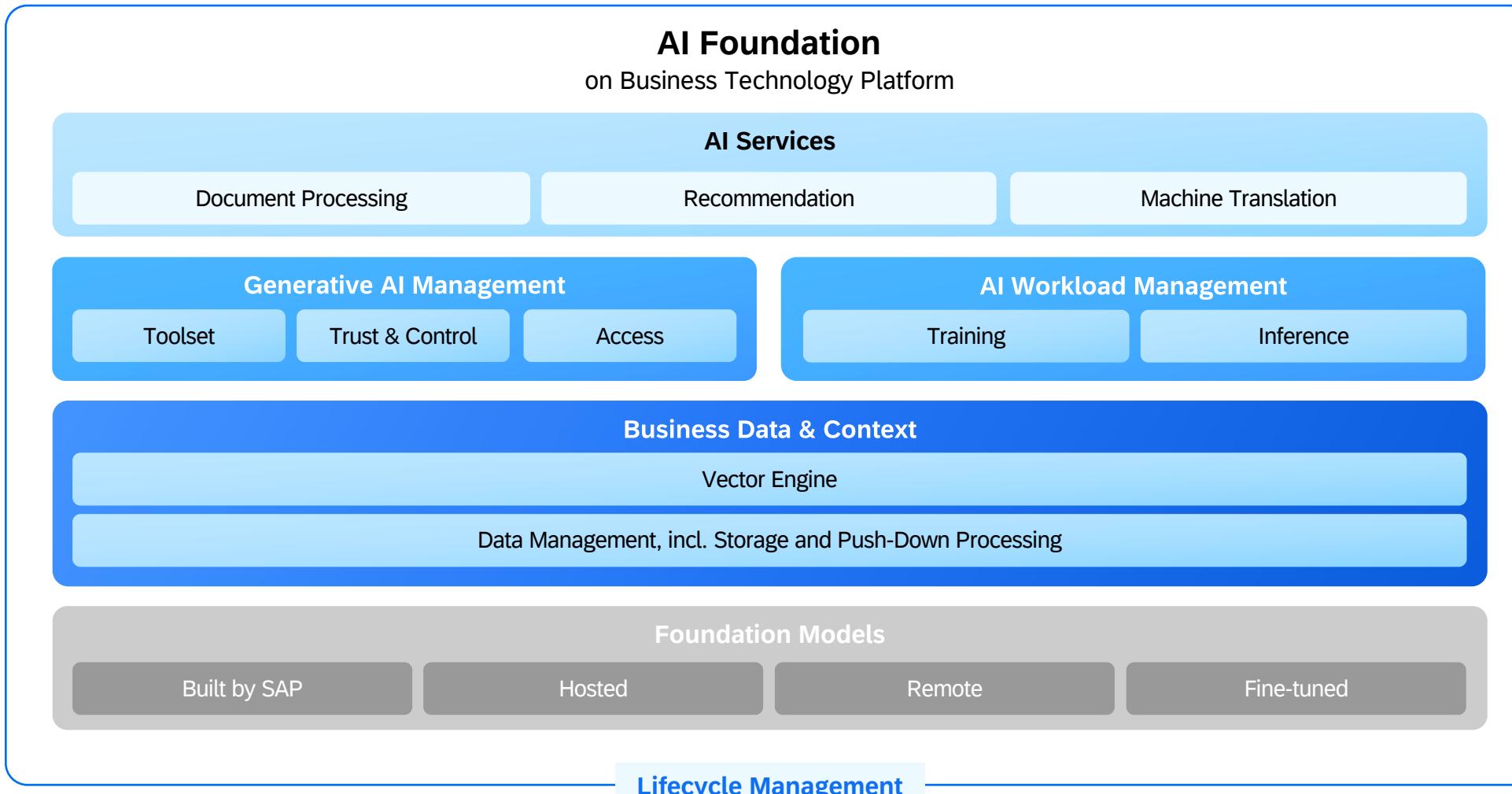
Google Cloud



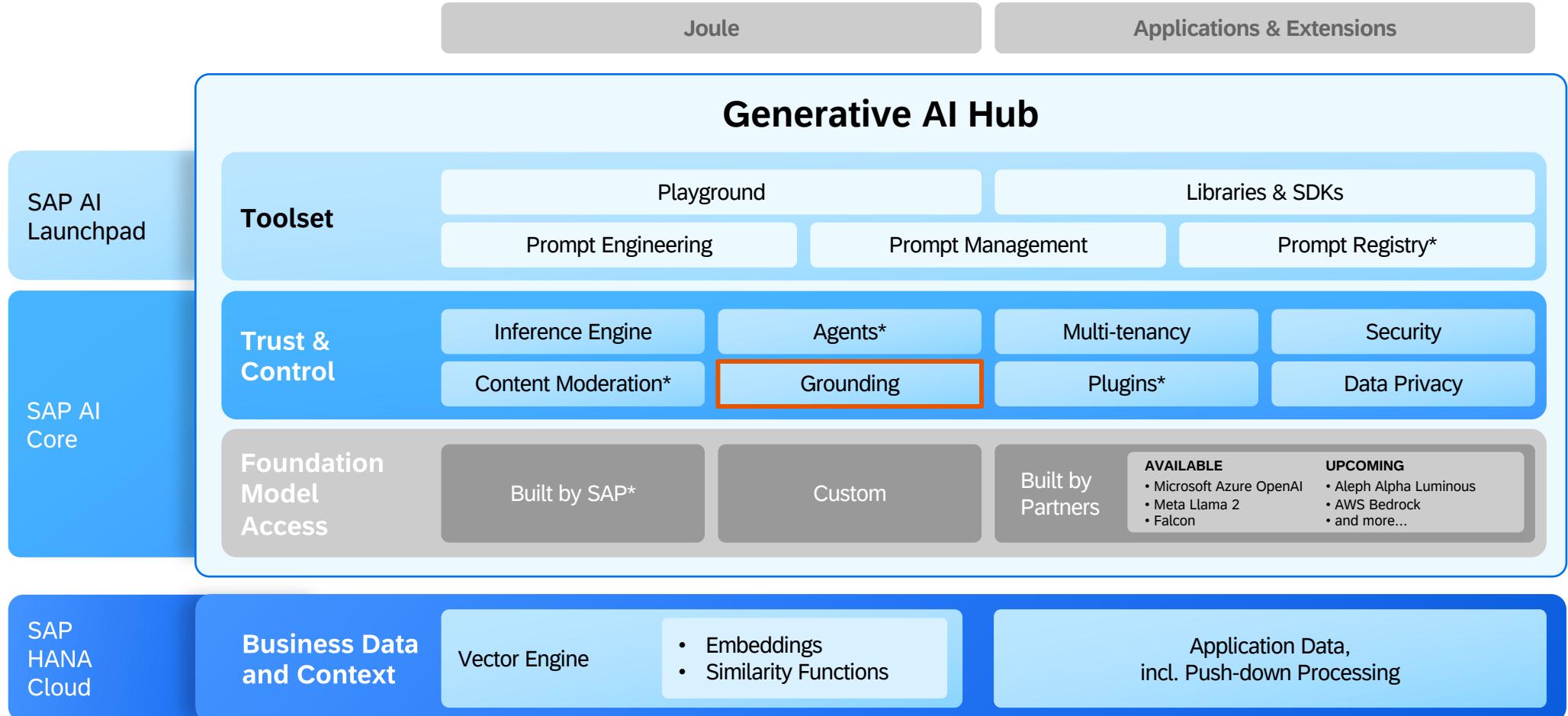
# A complete set of services for AI developers on SAP BTP



# A complete set of services for AI developers on SAP BTP



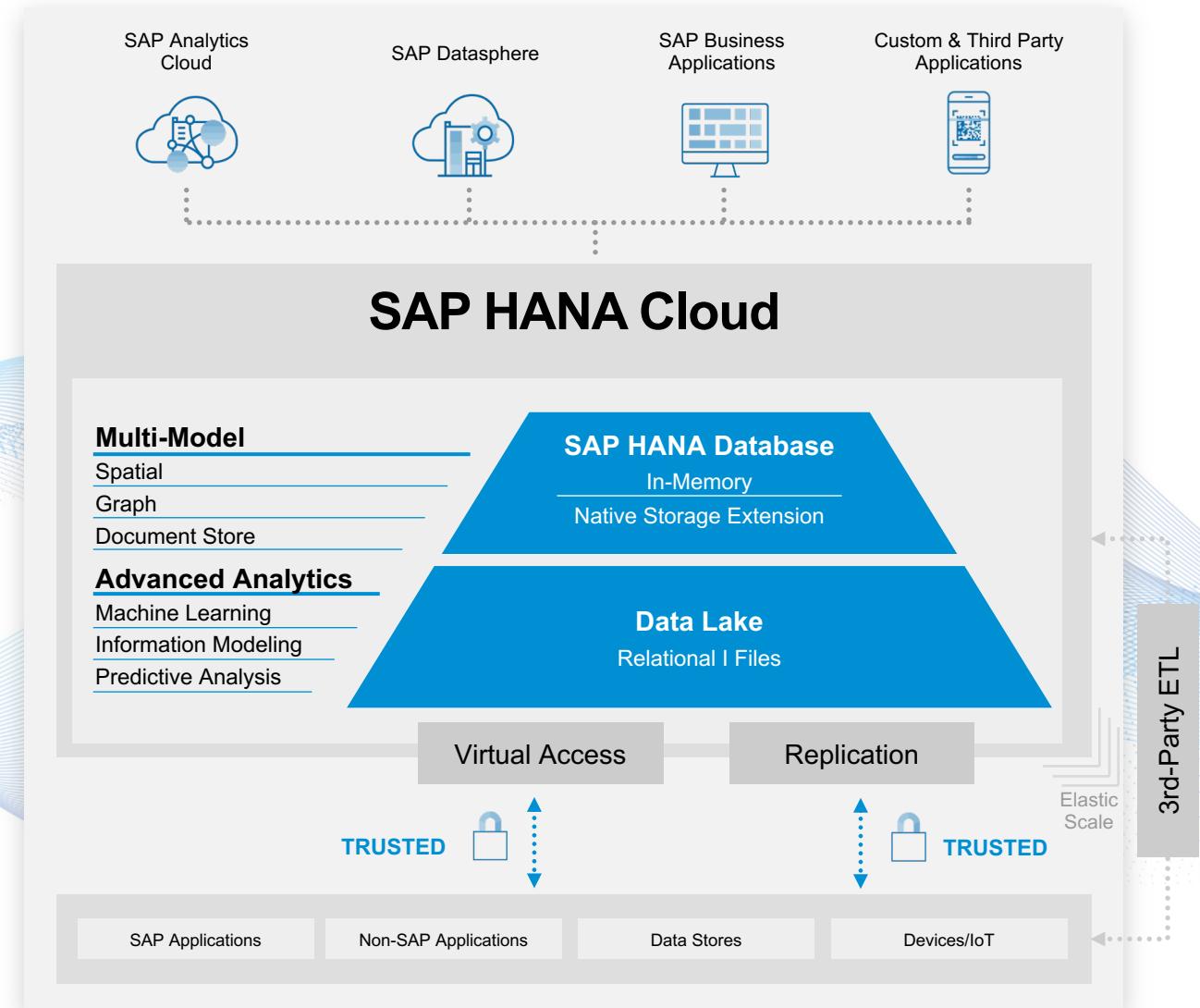
# Generative AI Hub: integrate AI into applications, seamlessly



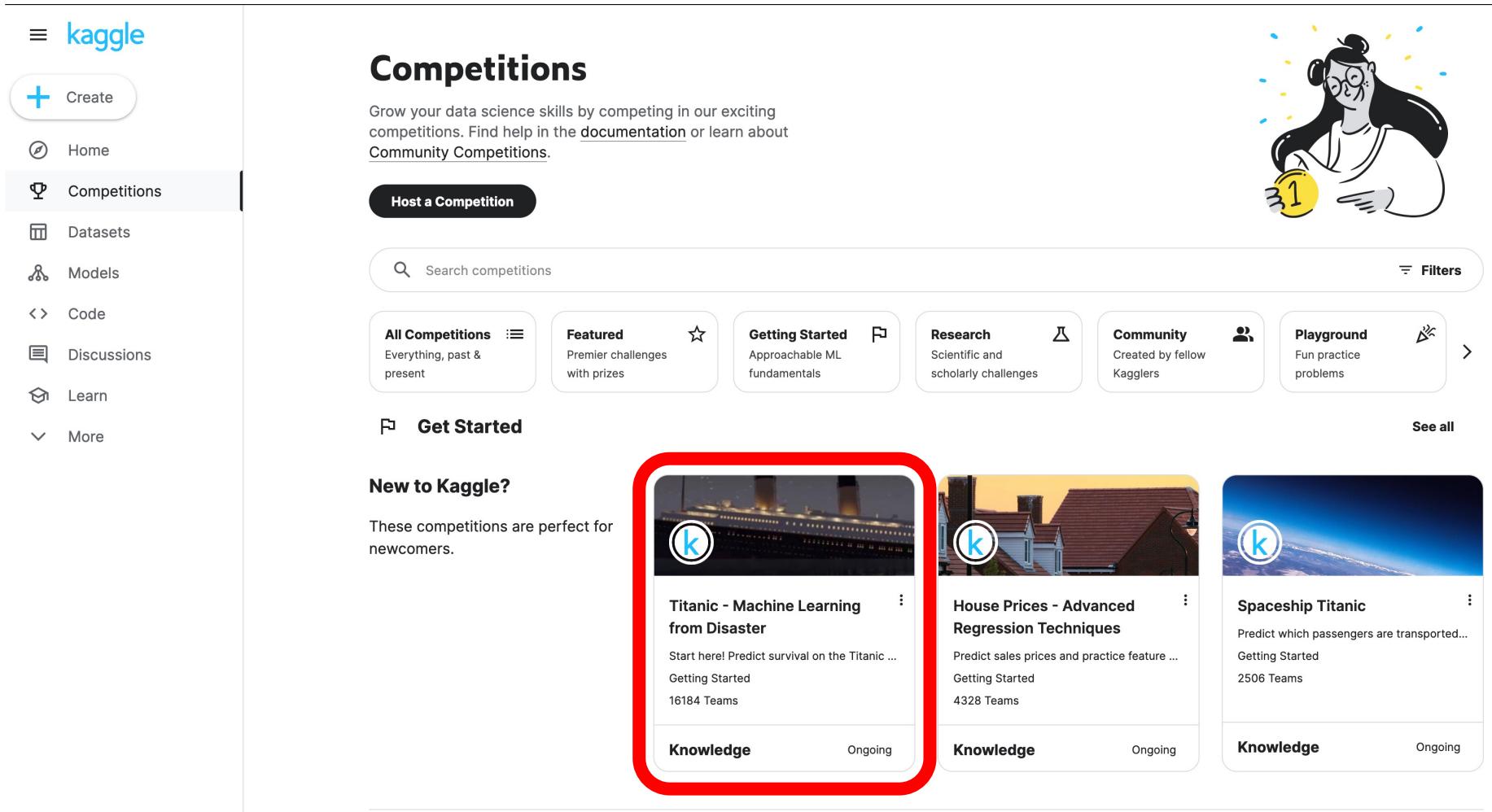
# SAP HANA Cloud | Foundation for Intelligent Data Applications on SAP BTP

## Power Intelligent Data Applications with SAP HANA Cloud

- Running mission-critical applications and analytics with **one solution**
- Seamlessly blend **multi-model data** to enhance business processes
- Federate data **across hybrid systems** and multiple clouds
- Provide **proven in-memory performance** for all data needs



# Our ML Challenge today:



The screenshot shows the Kaggle Competitions page. On the left is a sidebar with navigation links: kaggle, Create, Home, Competitions (which is selected), Datasets, Models, Code, Discussions, Learn, and More. The main content area has a title "Competitions" and a sub-section "Host a Competition". Below this is a search bar with "Search competitions" and a "Filters" button. A row of category cards includes "All Competitions" (Everything, past & present), "Featured" (Premier challenges with prizes), "Getting Started" (Approachable ML fundamentals), "Research" (Scientific and scholarly challenges), "Community" (Created by fellow Kagglers), and "Playground" (Fun practice problems). A "Get Started" section follows, featuring three competitions: "Titanic - Machine Learning from Disaster" (highlighted with a red box), "House Prices - Advanced Regression Techniques", and "Spaceship Titanic". Each card shows the competition name, a thumbnail image, a brief description, the number of teams, and the status (Knowledge, Ongoing).

**Competitions**

Grow your data science skills by competing in our exciting competitions. Find help in the [documentation](#) or learn about [Community Competitions](#).

[Host a Competition](#)

Search competitions Filters

**All Competitions** Everything, past & present **Featured** Premier challenges with prizes **Getting Started** Approachable ML fundamentals **Research** Scientific and scholarly challenges **Community** Created by fellow Kagglers **Playground** Fun practice problems

[Get Started](#) See all

**New to Kaggle?**

These competitions are perfect for newcomers.

**Titanic - Machine Learning from Disaster**

Start here! Predict survival on the Titanic ...  
Getting Started  
16184 Teams

**Knowledge** Ongoing

**House Prices - Advanced Regression Techniques**

Predict sales prices and practice feature ...  
Getting Started  
4328 Teams

**Knowledge** Ongoing

**Spaceship Titanic**

Predict which passengers are transported...  
Getting Started  
2506 Teams

**Knowledge** Ongoing

**Repo:** <https://github.com/SAP-samples/hana-ml-py-codejam/>

(→ [https://bit.ly/CJ\\_HANAML](https://bit.ly/CJ_HANAML))

## **1. Pre-requisites:**

<https://github.com/SAP-samples/hana-ml-py-codejam/blob/main/prerequisites.md>

## **2. Exercises:**

<https://github.com/SAP-samples/hana-ml-py-codejam#the-exercises>

## **3. Worth watching:**

<https://github.com/SAP-samples/hana-ml-py-codejam#overview-sessions>

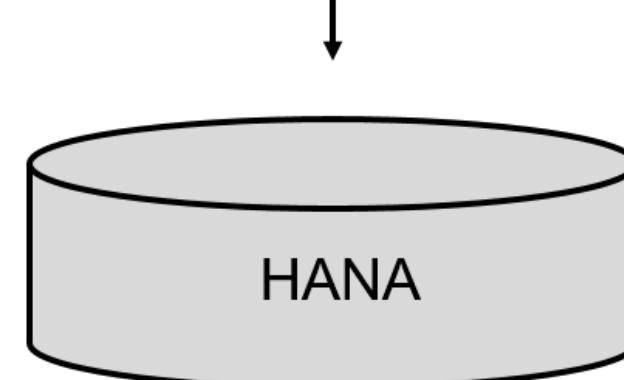
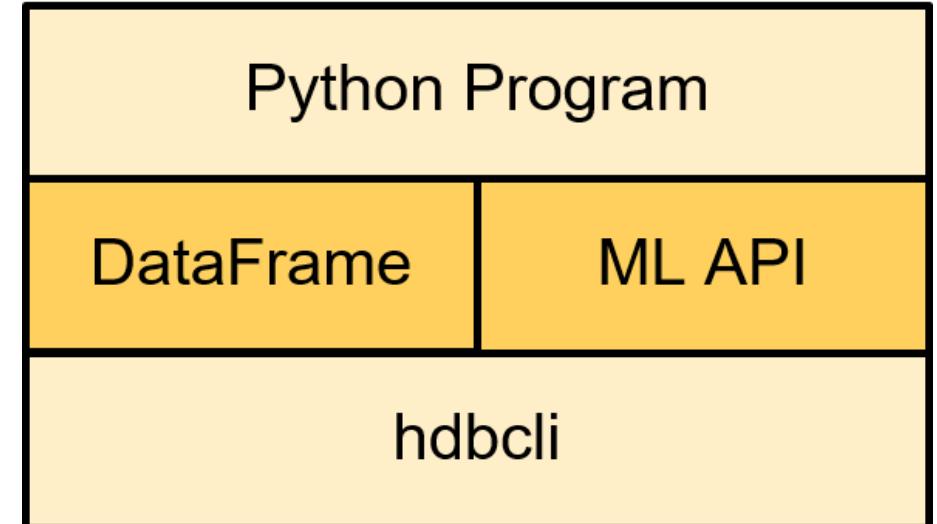
## **4. Try at home in your SAP BTP Trial:**

<https://github.com/SAP-samples/sap-community-developer-challenge-eda-hana>

# Understand DataFrame(s)

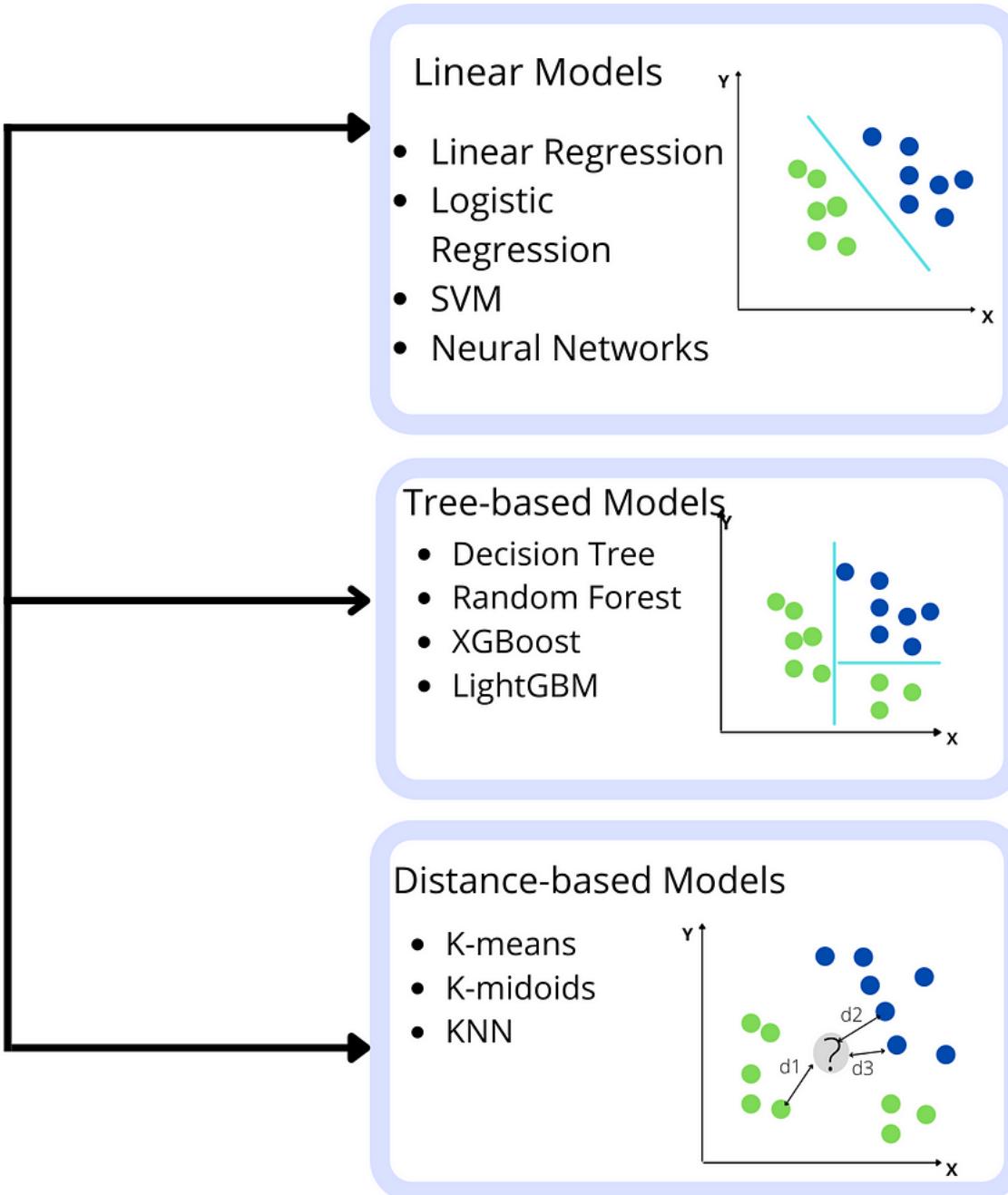
# Data Scientist using Python

Pandas DataFrame <> HANA DataFrame

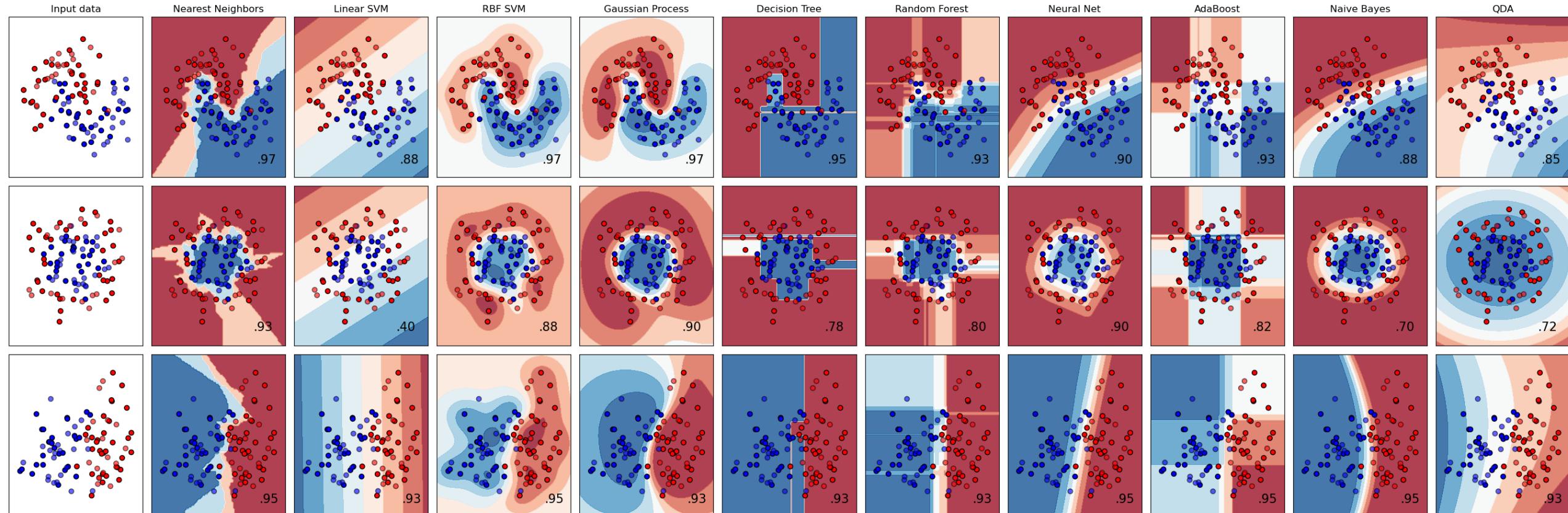


# Decision Boundary

Decision  
Boundary

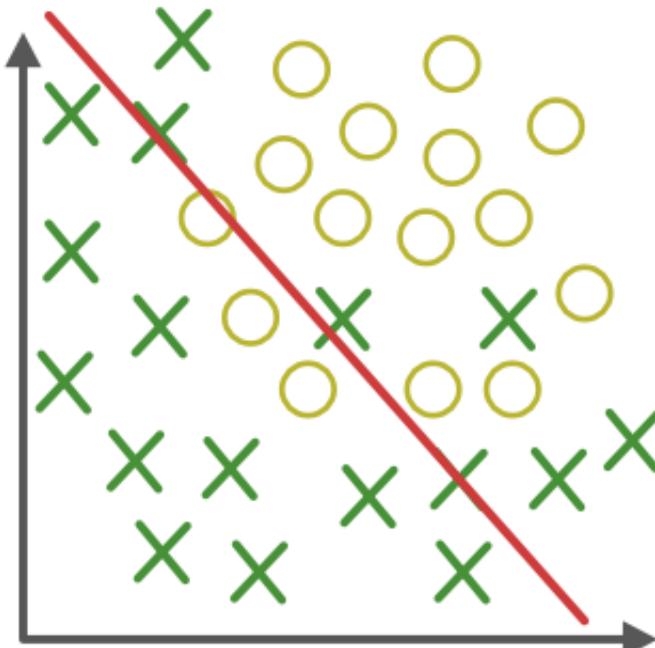


# Decision Boundary (different algorithms)

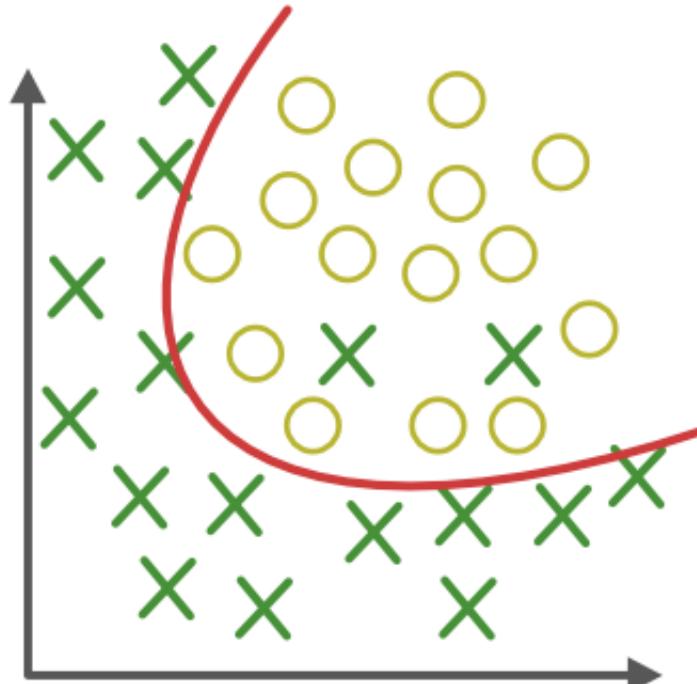


[https://scikit-learn.org/stable/auto\\_examples/classification/plot\\_classifier\\_comparison.html](https://scikit-learn.org/stable/auto_examples/classification/plot_classifier_comparison.html)

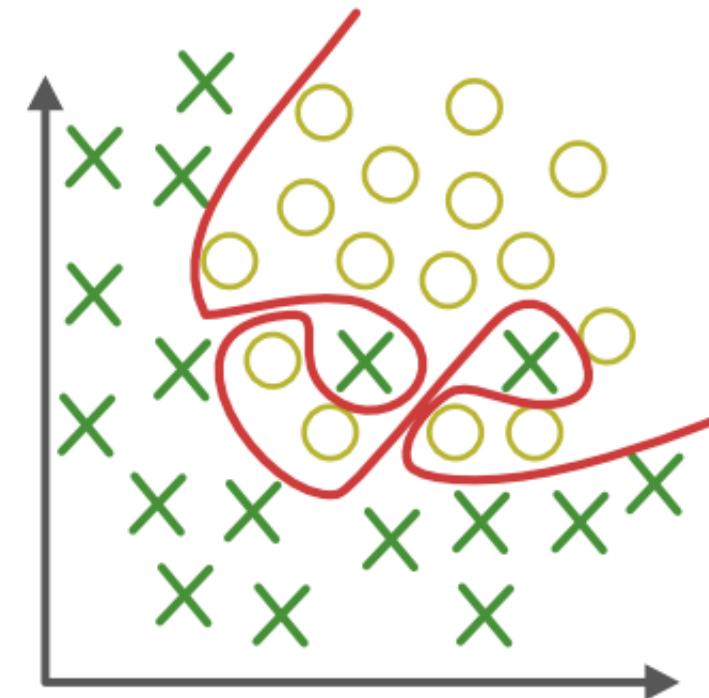
# Underfitting and Overfitting



**Under-fitting**  
(too simple to  
explain the variance)



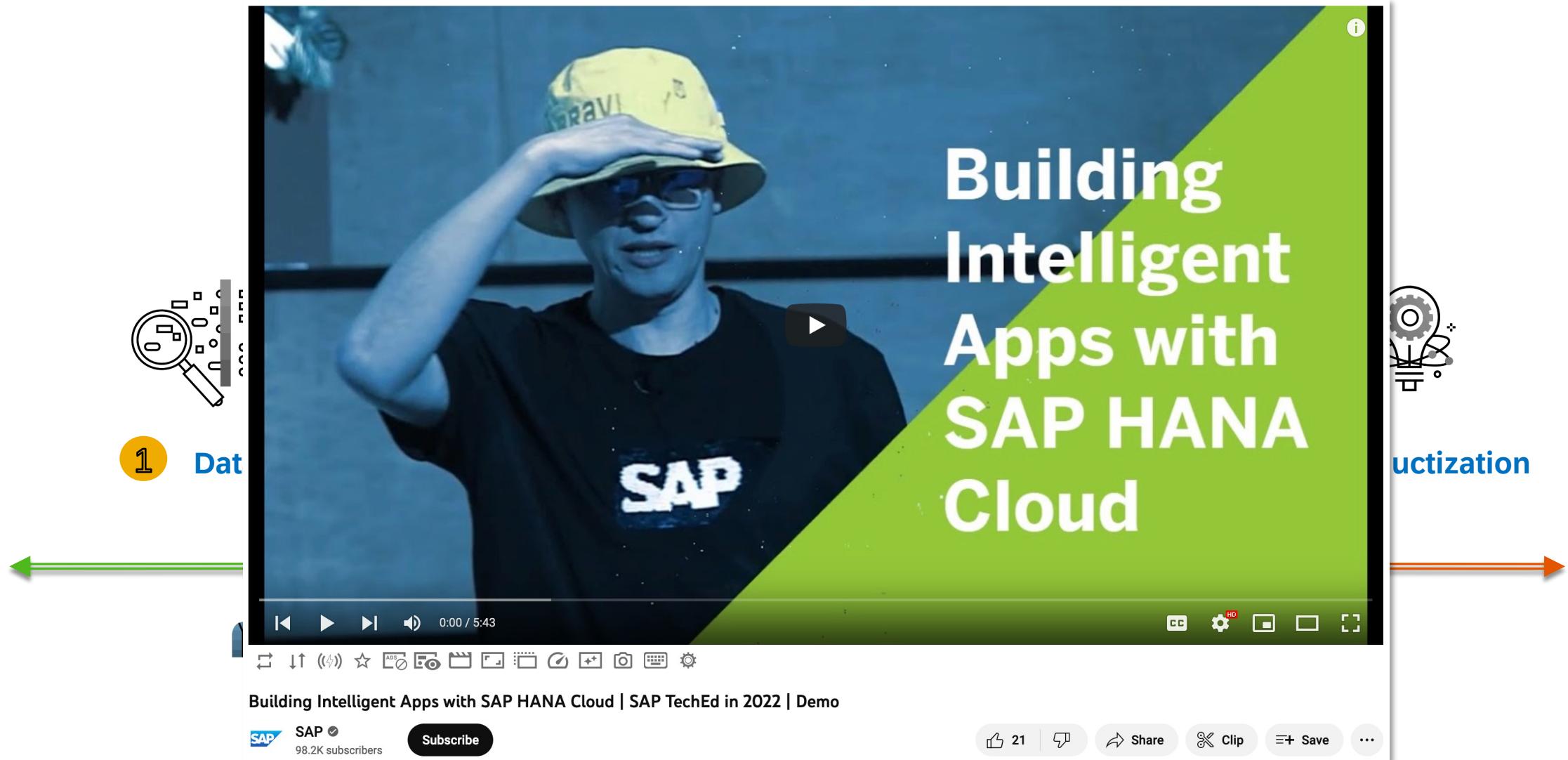
**Appropriate-fitting**



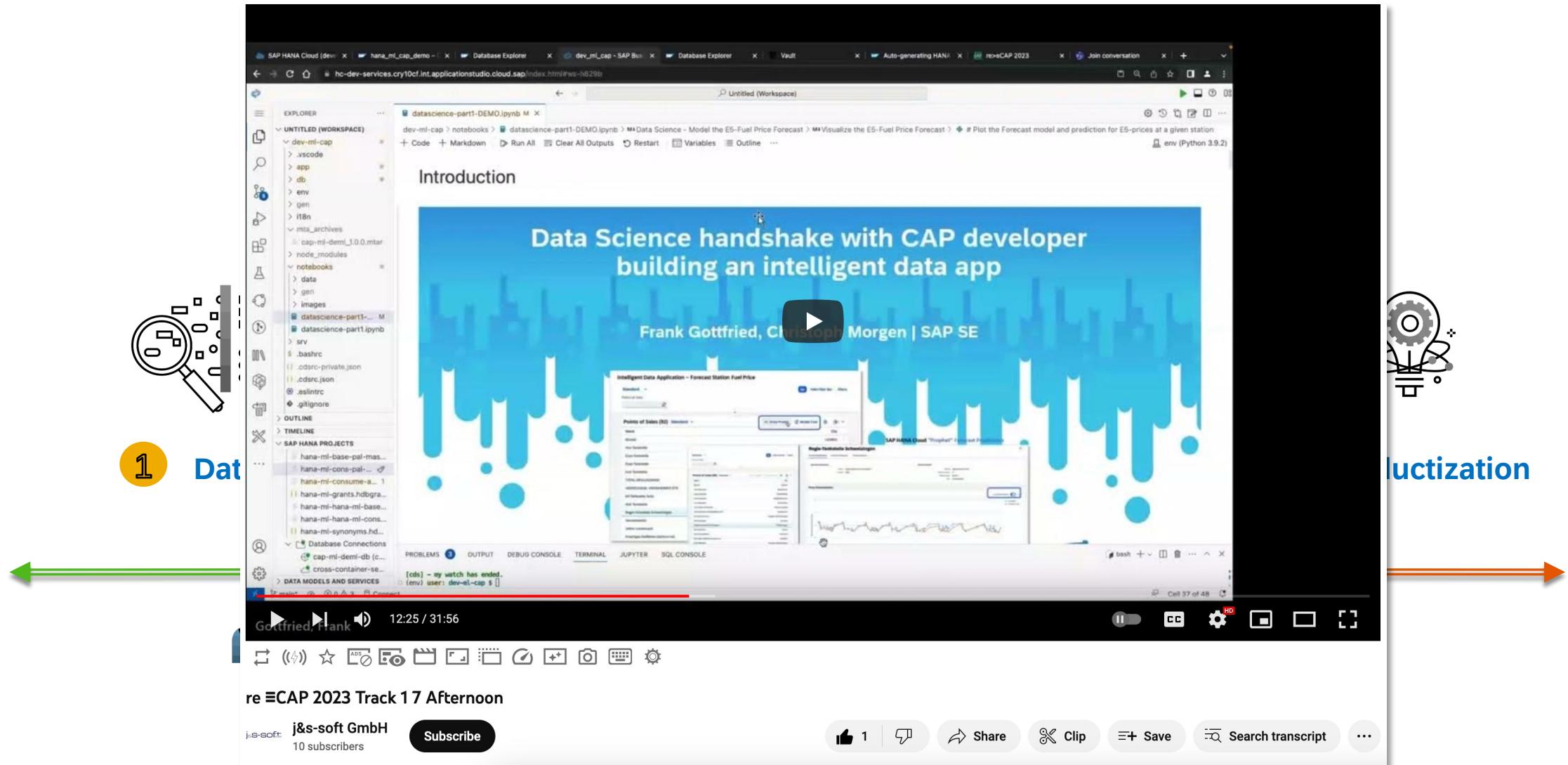
**Over-fitting**  
(forcefitting--too  
good to be true)

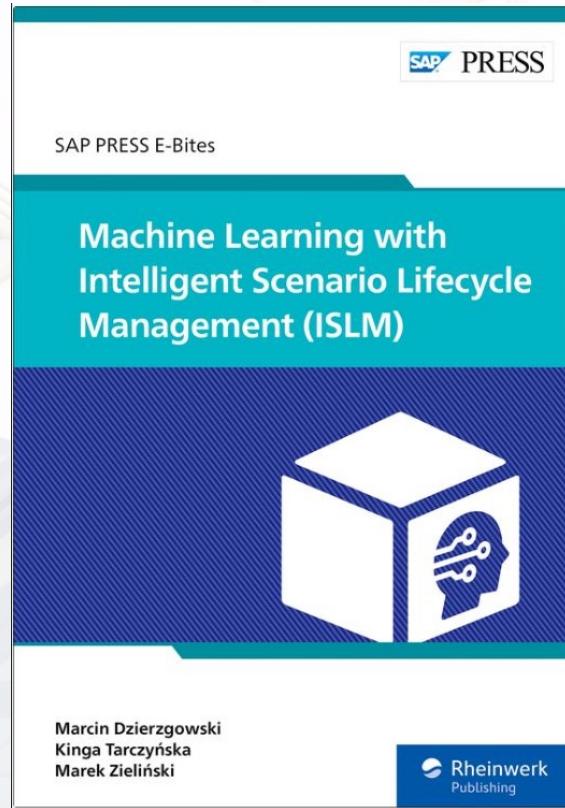
DG

## Development Approach | Building an Intelligent Data Application (demo)



# Development Approach | Building an Intelligent Data Application (demo)





## Machine Learning with Intelligent Scenario Lifecycle Management (ISLM)

115 pages, 2023, E-Book  
ISBN 978-1-4932-2395-4

[www.sap-press.de/5668](http://www.sap-press.de/5668)

## Update your machine learning skills with Intelligent Scenario Lifecycle Management (ISLM)!

In this E-Bite, you'll develop a complete machine learning application for SAP S/4HANA using SAP HANA PAL, from data preparation and model building to training and prediction generation. You'll learn to use the ISLM framework to simplify machine learning implementation with standard apps for managing intelligent scenarios. Learn the ins and outs of machine learning with ISLM in this how-to guide!

- Learn to use the ISLM framework in SAP S/4HANA
- Develop an end-to-end machine learning scenario with SAP HANA PAL
- Prepare data, train models, and implement predictions with ISLM

# Thank you!

Contact information:

Witalij Rudnicki

<https://people.sap.com/vitaliy.rudnytskiy>

