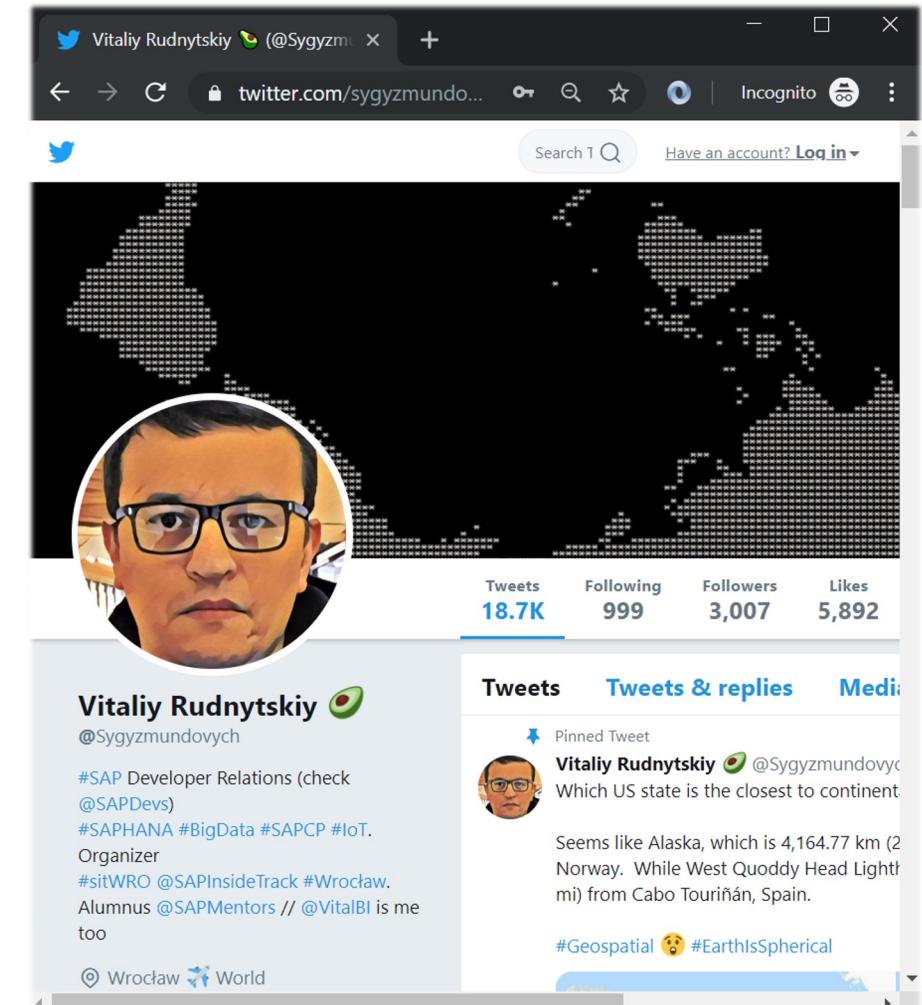


Witalij Rudnicki

@Sygymundowych

aka Vitaliy Rudnytskiy,
Віталій Рудницький

- 15 years **tech consultant** in SAP BI/BW
- SAP **Developer Advocate**
in **SAP Community & Developer Relations**
- All things Data
<http://bit.ly/SAPDevsData>
- Based in Wrocław, Poland
- Organizer of local SAP Community meetups and **SAP Inside Track**





Andreas Forster
Machine Learning Expert

Grüezi, nice
to meet you



Your SAP contact for

- Python
- SAP Datasphere ML
- SAP HANA Cloud ML
- ChatBot
- ML / AI

With a background in

- Data Science
- Analytics



Nico Wyss
Solution Advisor BTP



Grüezi, nice
to meet you

Your SAP contact for

- Automation
- Extension
- Digital Experience
- ML / AI

With a background in

- Data Science
- Finance

Events not be missed

<https://events.sap.com/ch/hackathon2024/en/home>

The screenshot shows the SAP Hackathon 2024 homepage. At the top, there's a banner with the SAP logo and the text "Welcome to SAP Hackathon". Below the banner, there's a large background image of a computer screen displaying code and terminal windows. On the left side of the main content area, there's a sidebar with the SAP logo, a speech bubble icon, a "Deutsch" button, and a menu icon. The main content area has a white background and contains several sections: "YOUR GUIDE TO SUCCESS", "WHAT YOU SHOULD BRING WITH YOU", "WHAT YOU CAN EXPECT", and a summary section at the bottom. The "WHAT YOU CAN EXPECT" section includes a callout box for "SAP@the Circle Zurich-Airport". The "Contact us" button is located in the bottom right corner of the main content area.

YOUR GUIDE TO SUCCESS:

- Day 1-2: Immerse yourself in the world of SAP BTP & AI, and perfect your use case.
- Day 2-4: Develop your use case further together with experts.
- Day 5: Present your results to a panel of experts and celebrate your achievements.

WHAT YOU SHOULD BRING WITH YOU:

- A use case that you would like to put through its paces with us.
- 1-2 talented developers who can bring your project to life.
- An enthusiasm for learning together, and exploring AI in the SAP world.

WHAT YOU CAN EXPECT:

- Sustainable added value for your company.
- An intensive exchange of knowledge, coupled with fun and inspiration.
- Continuous professional support from our SAP experts.
- Awards and recognition for the best use cases at the end of the hackathon.

**SAP Hackathon
Business meets AI**

SAP@the Circle Zurich-Airport

Mon, June 10 until Fri, June 14, 2024

When: Monday, June 10 to Friday, June 14, 2024

Where: SAP@Zurich

SAP TechEd

Where ideas get real

The SAP TechEd event brings together developers, practitioners, enterprise architects, and global IT leaders. Joined by SAP experts and partners, they'll unite to explore innovations in app development tools, generative AI, clean core for cloud ERP, and much more.



<https://news.sap.com/2024/01/sap-teched-in-2024-expanded-global-program>:

SAP TechEd Virtual: October 8-9, 2024

SAP TechEd On Tour:

- North America,
- Europe, the Middle East and Africa (EMEA),
- Latin America and the Caribbean (LAC), and
- Asian-Pacific and Japan (APJ)

ASUG Tech Connect with SAP TechEd, West Palm Beach, Florida: November 12-14, 2024

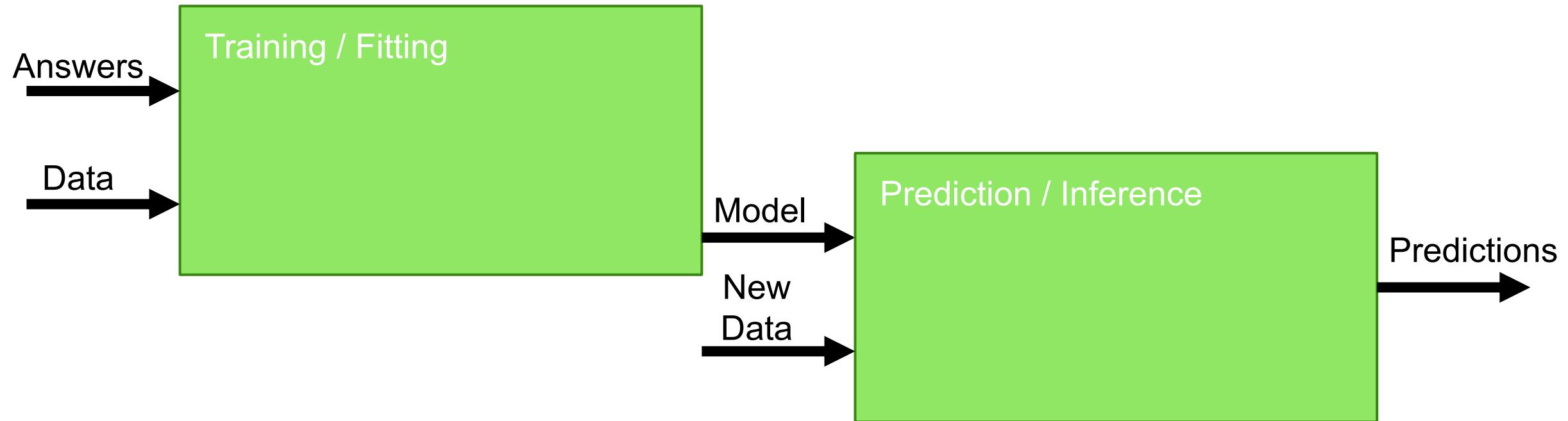
Devtoberfest:

<https://www.youtube.com/playlist?list=PL6RpkC85SLQDHz97qsNTNAE2jnUKj8X5d>

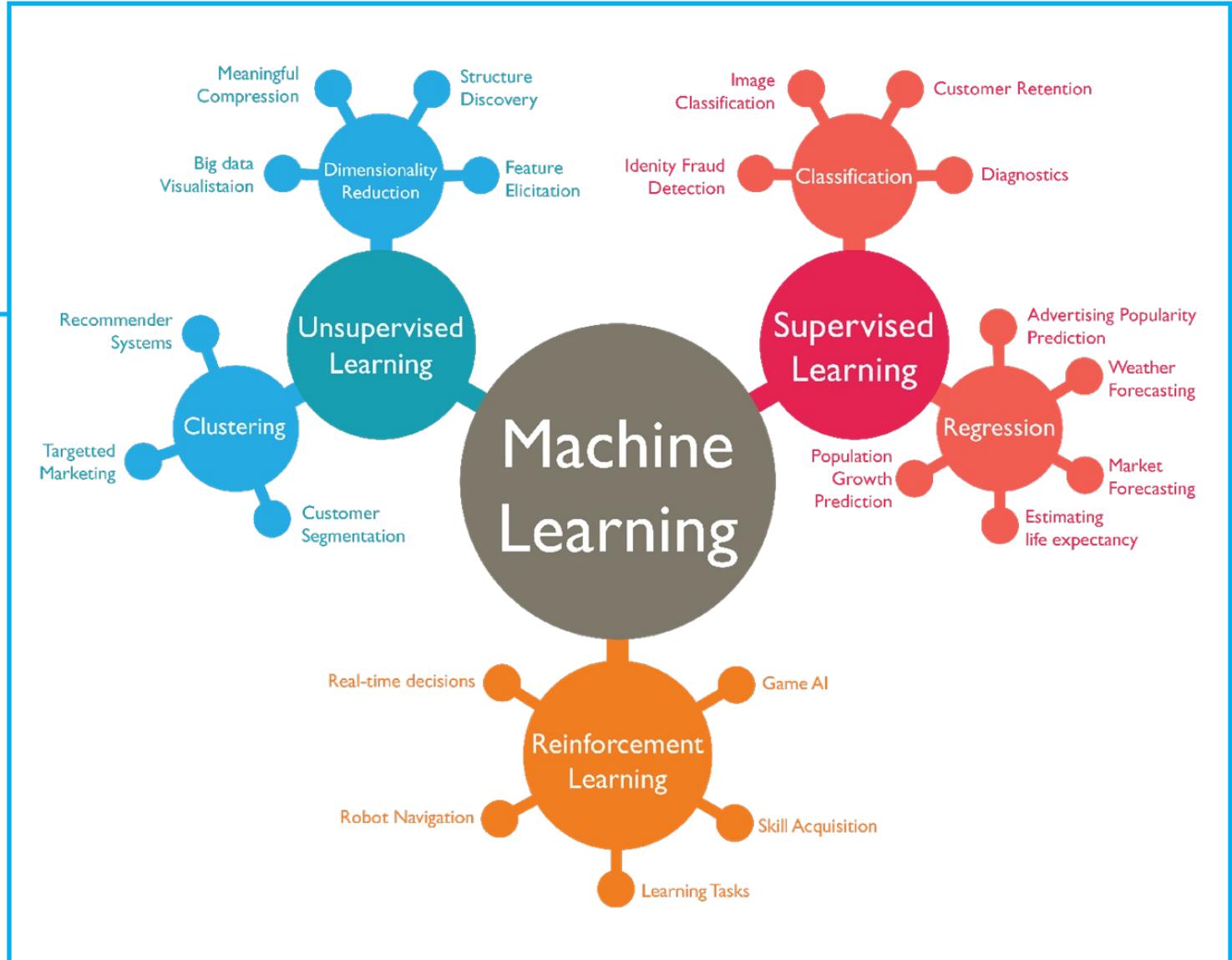
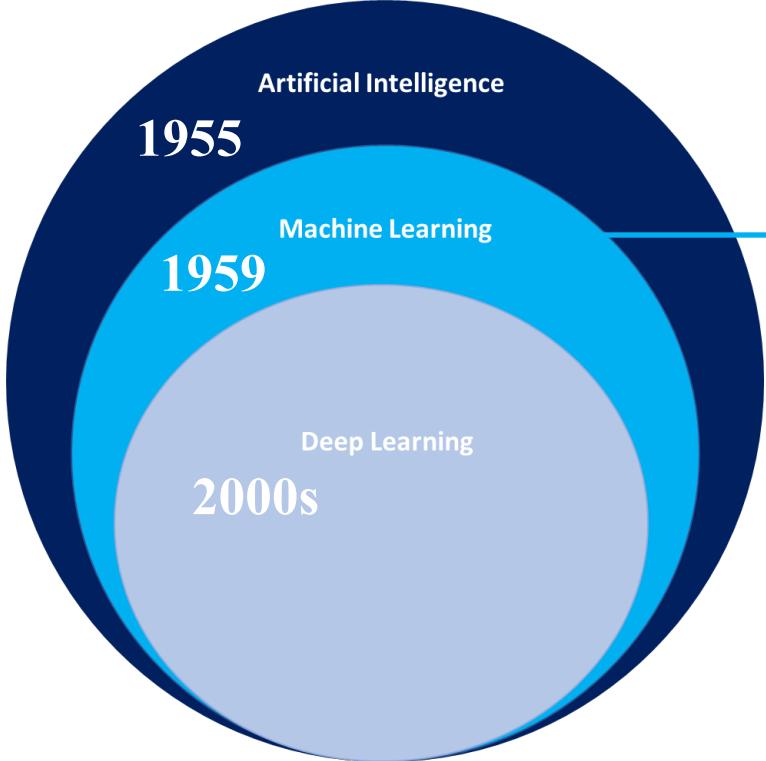
- ABAP & CAP
- Low-code/No-code
- Data, Analytics, & AI
- User Interface
- Integration Suite

**A bit of theory
before we start**

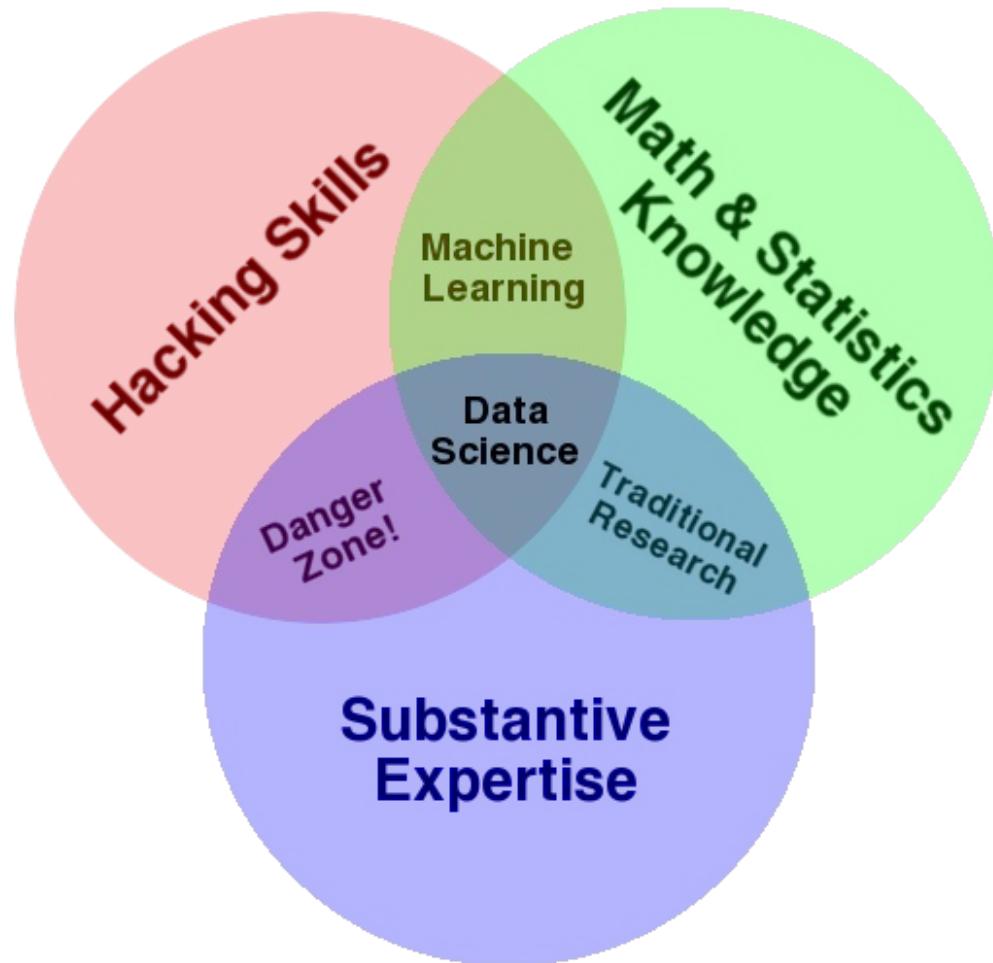
Machine Learning



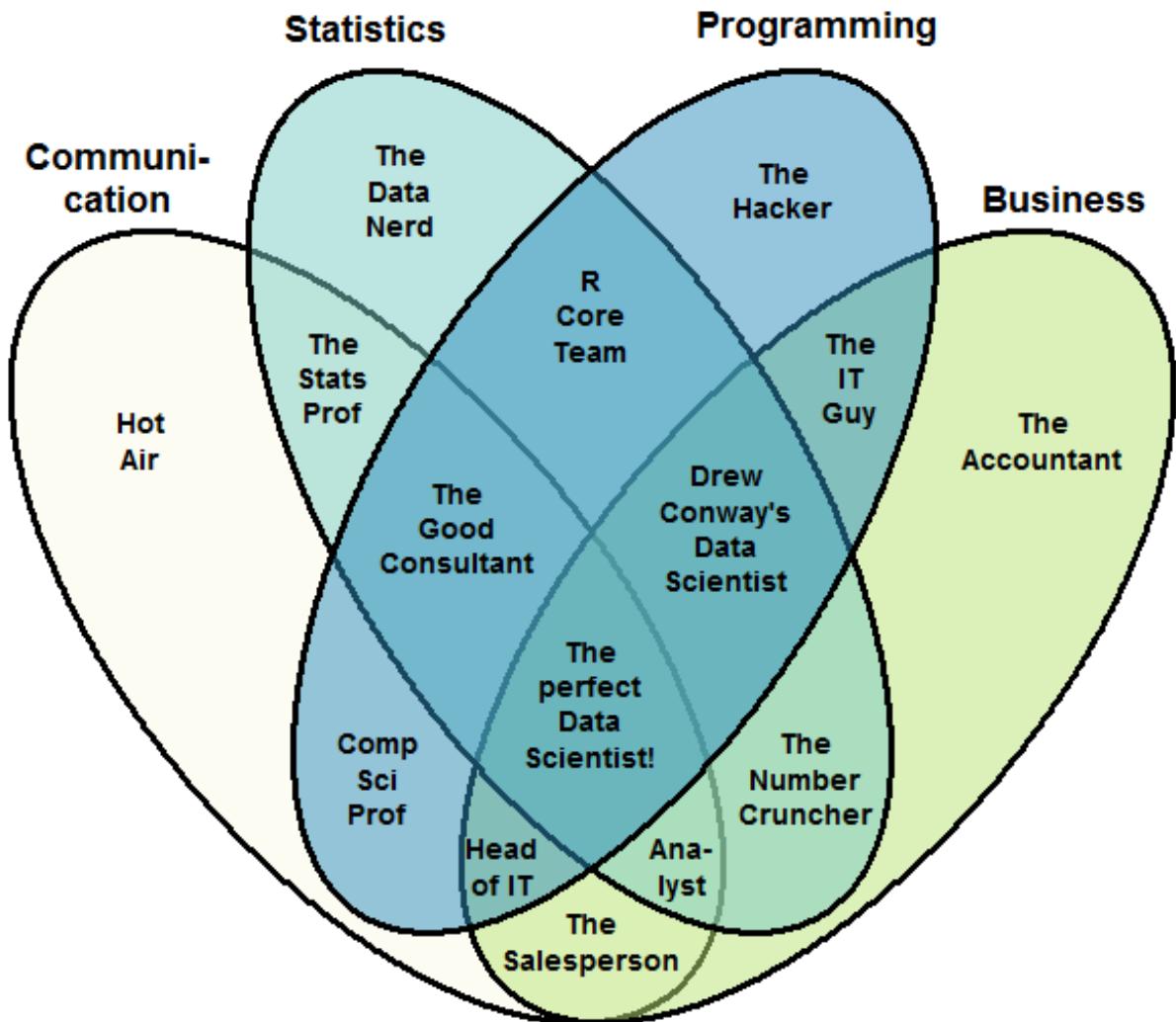
Machine Learning Terminology



Who is the Data Scientist?

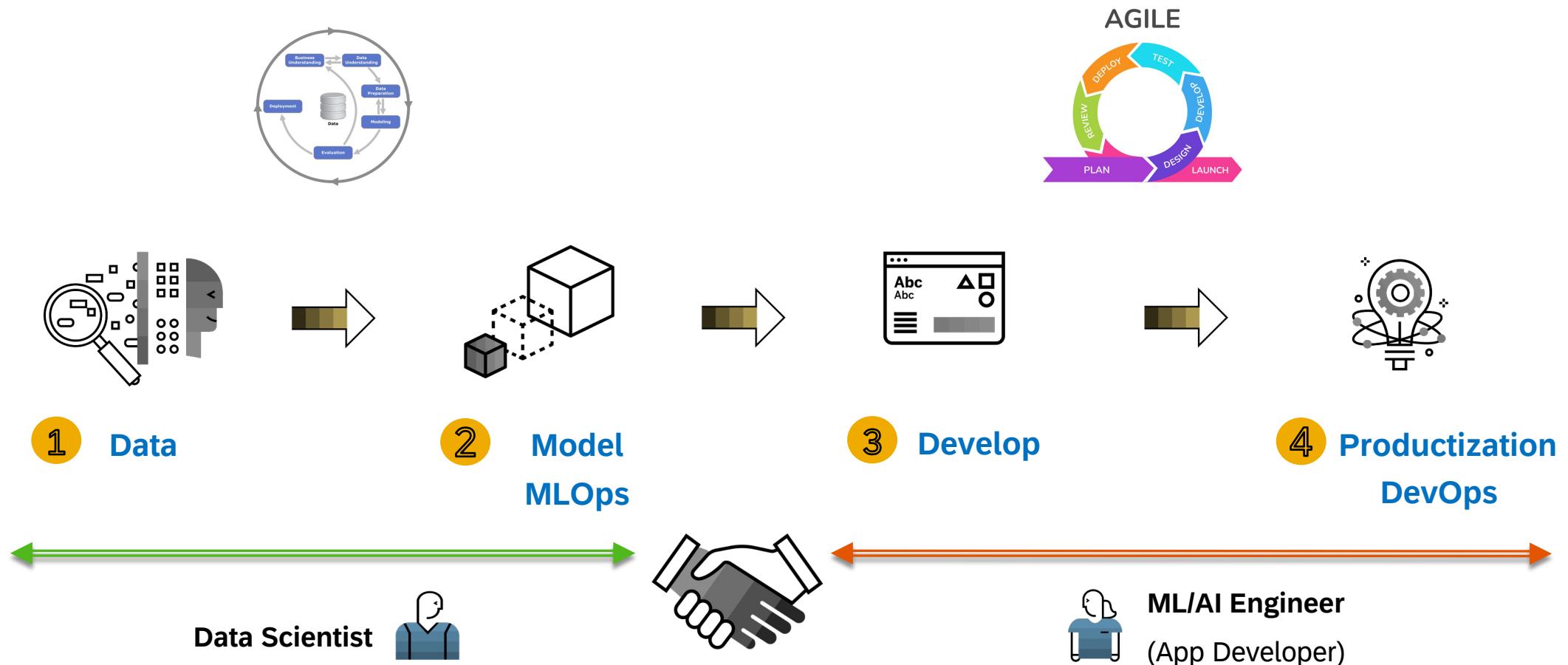


Drew Conway's Data Scientist Venn Diagram

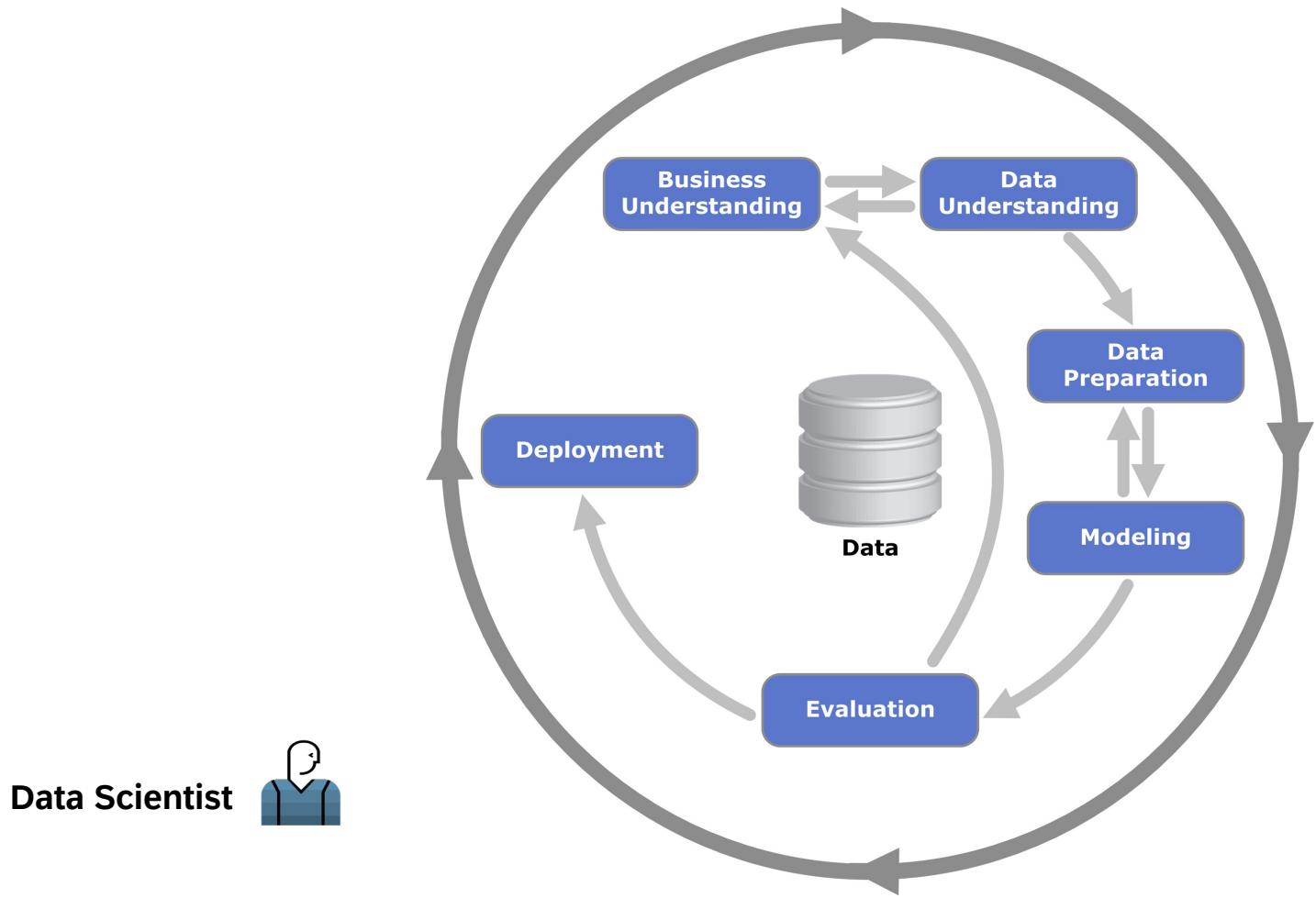


Stephan Kolassa's Data Scientist Venn Diagram

Development Approach | Building an Intelligent Data Application



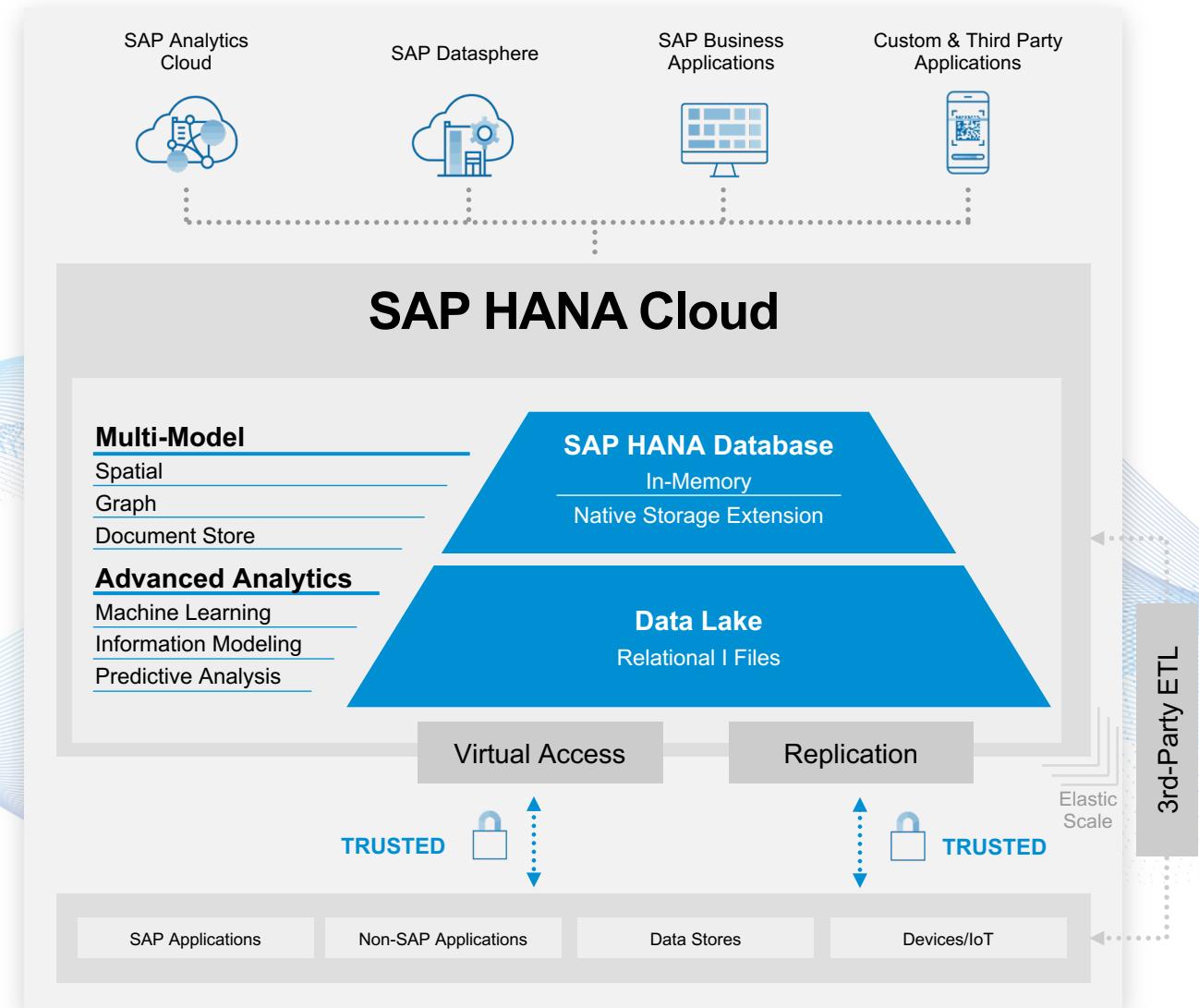
Development Approach | Training a Model



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



Exercises

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

(→ 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#additional-learning-material>

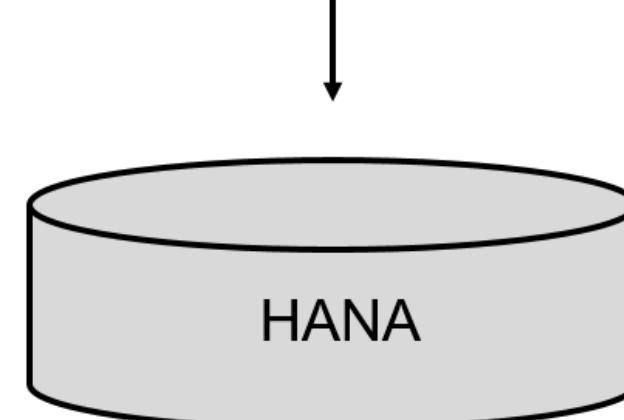
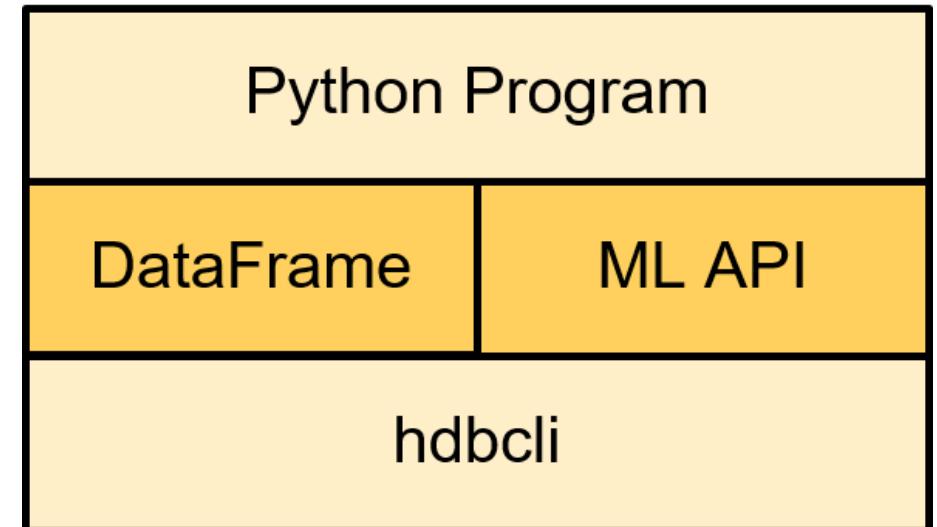
4. Try at home in your SAP BTP Trial:

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

Understand DataFrame(s)

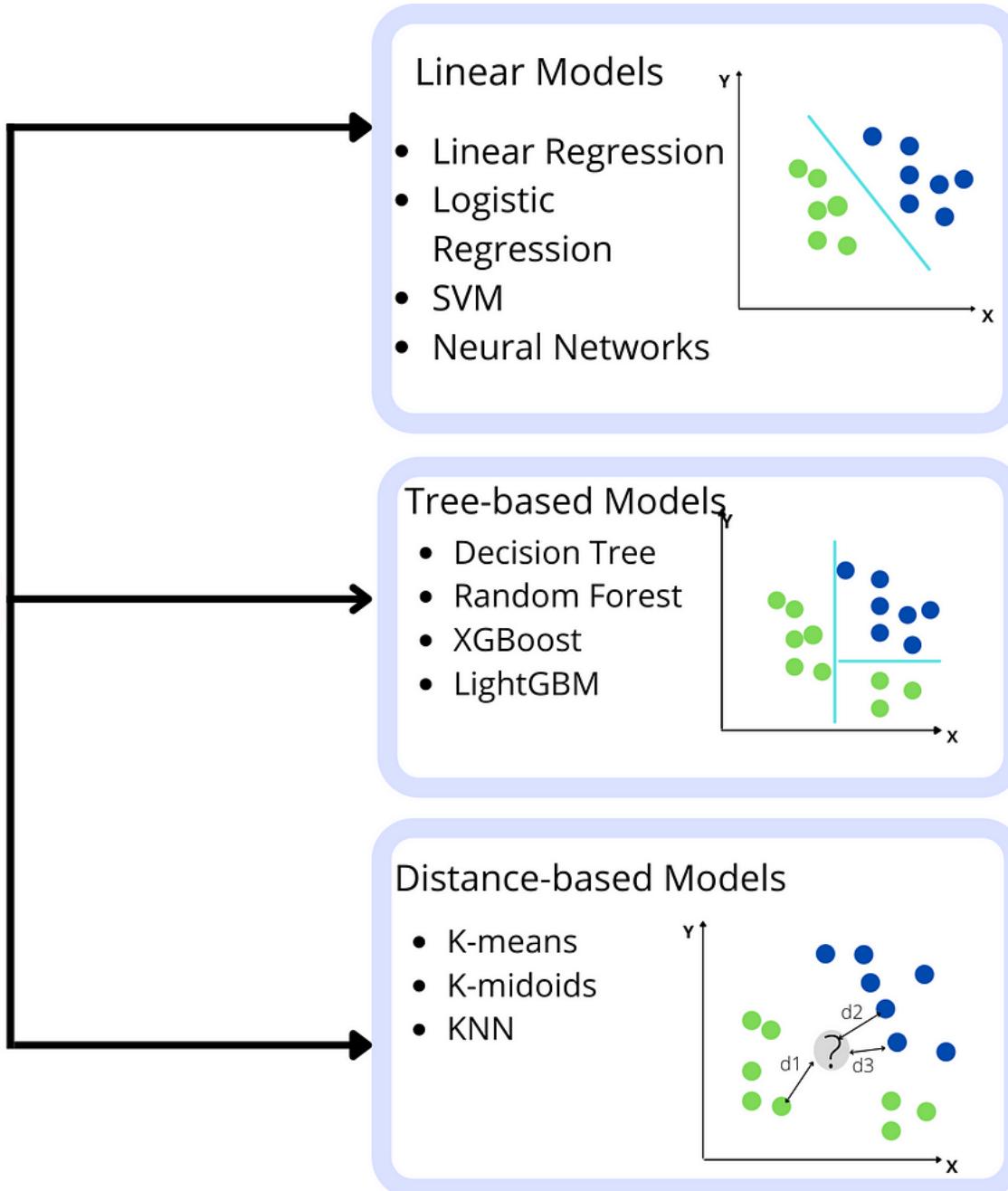
Data Scientist using Python

Pandas DataFrame <> HANA DataFrame

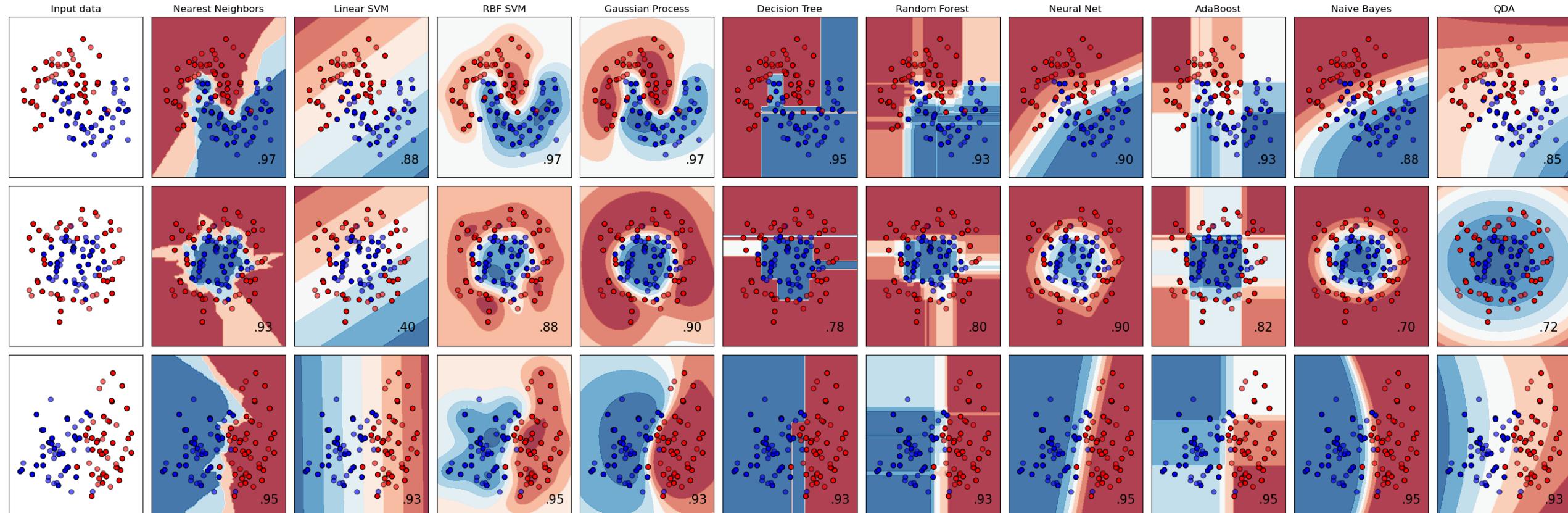


Decision Boundary

Decision
Boundary

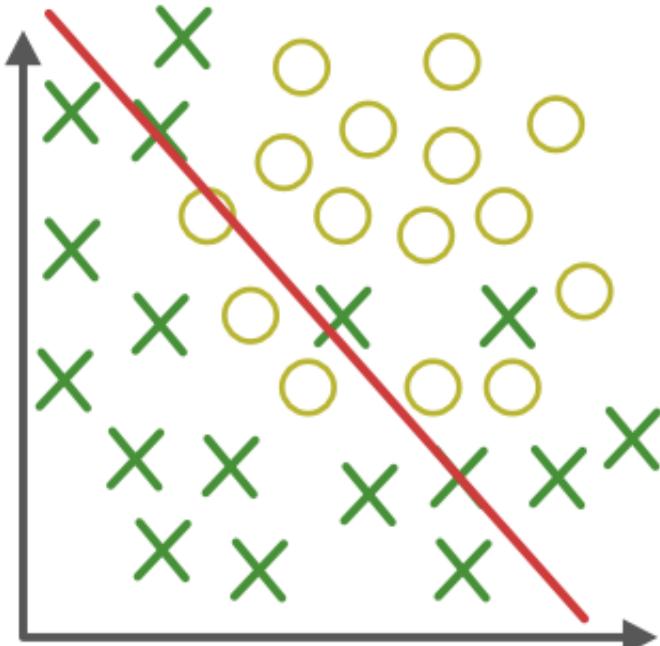


Decision Boundary (different classification algorithms)

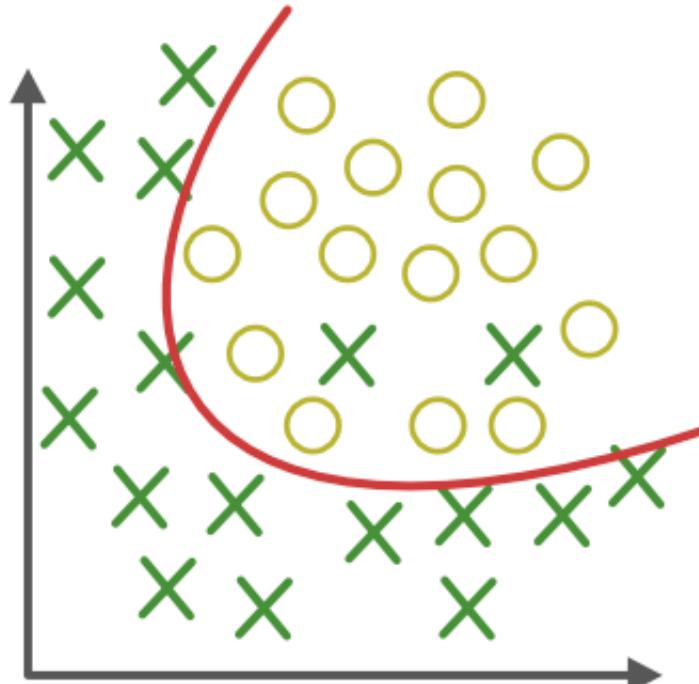


source: https://scikit-learn.org/stable/auto_examples/classification/plot_classifier_comparison.html

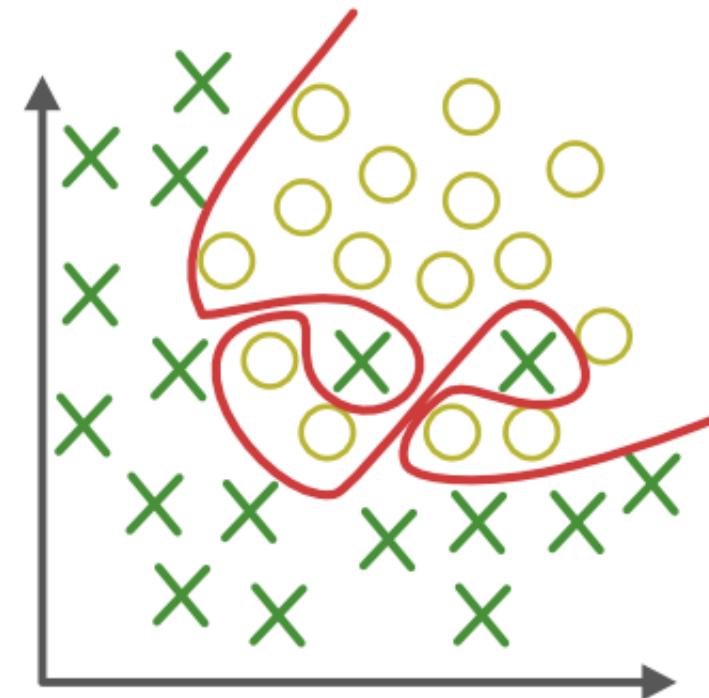
Underfitting and Overfitting



Under-fitting
(too simple to
explain the variance)



Appropriate-fitting

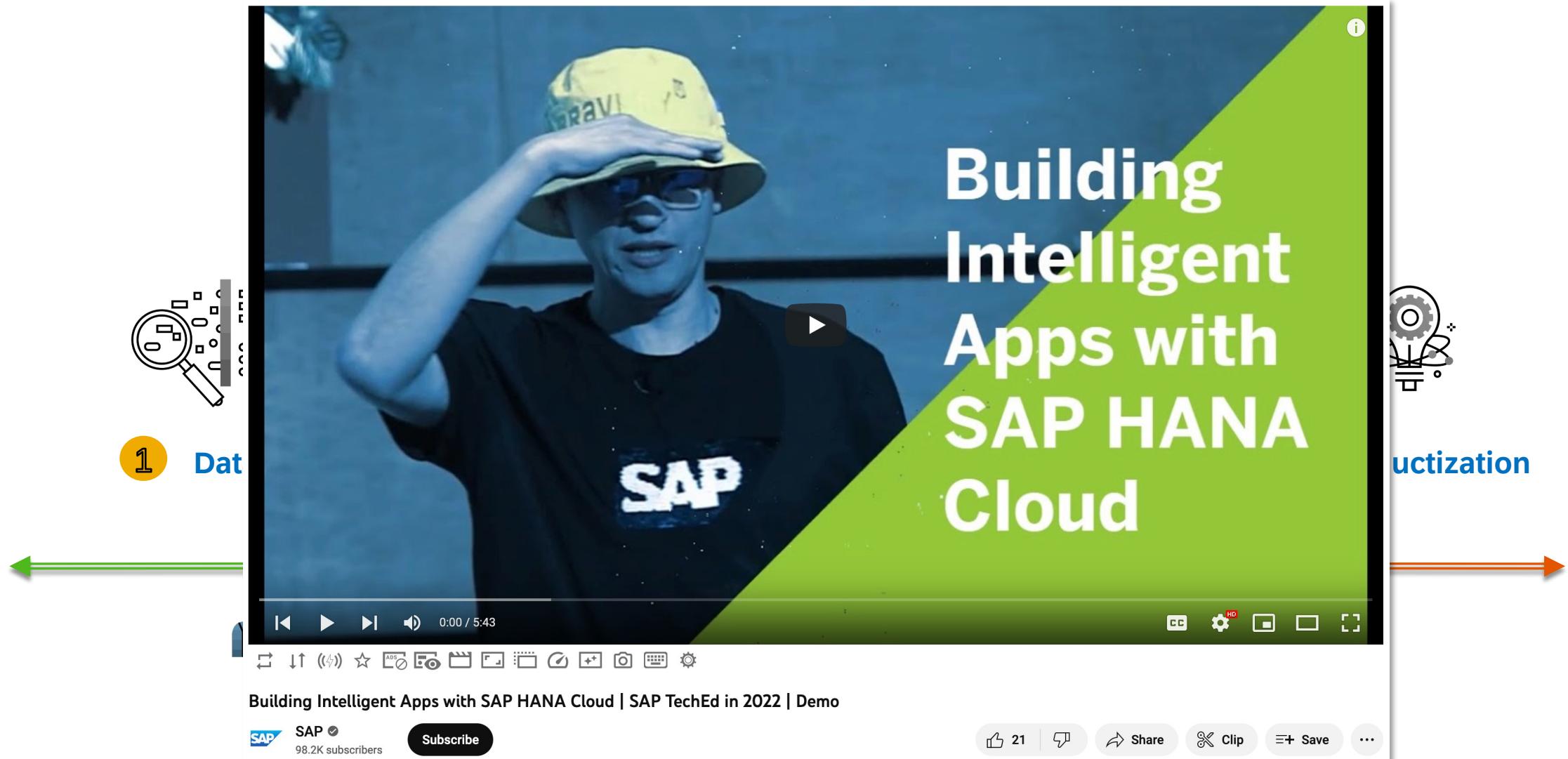


Over-fitting
(forcefitting--too
good to be true)

DG

Additional content

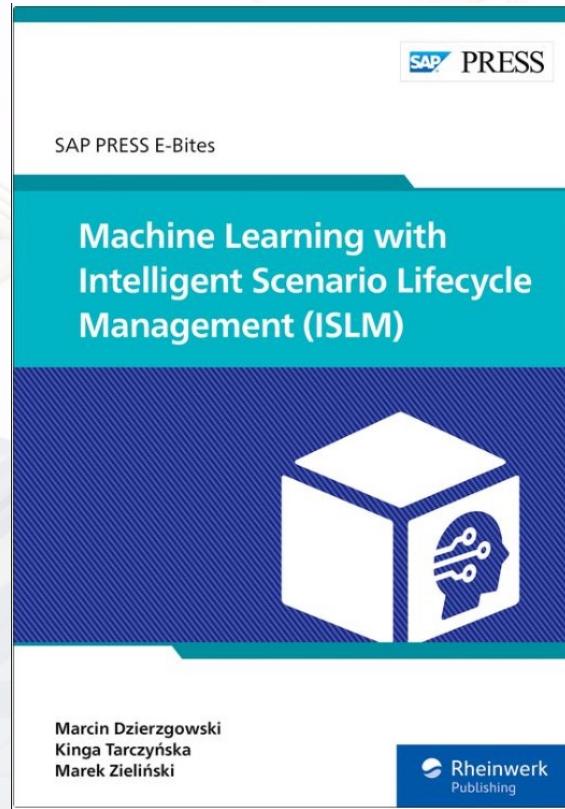
Development Approach | Building an Intelligent Data Application (demo)



Code samples: <https://github.com/SAP-samples/hana-ml-samples>

The screenshot shows a GitHub repository interface for the 'hana-ml-samples' repository. At the top, there's a navigation bar with a 'main' dropdown, a search bar labeled 'Go to file', an 'Add file' button, and a three-dot menu. Below the header, a commit card is displayed for a user named 'cmog' who committed 'FairML - Fair Recruiting Model' at 'f009115' 3 weeks ago. A 'History' link is also present. The main content area is a table listing various code samples:

Name	Last commit message	Last commit date
..		
diabetes-classification	Create OpenSAP-SAPHANA-HANA Machine Learning Demo (2...	2 years ago
estimate-car-price	update estimate car price	3 years ago
fairml-examples	FairML - Fair Recruiting Model	3 weeks ago
fraud-detection	fraud-detection use case	2 years ago
melbourne-housing-price	Add files via upload	4 years ago
ml-anonymized-data	Tutorial example - ML with HANA-ML Python ML client on HAN...	4 years ago
multimodel-analysis-airroutes	Update README.md	4 years ago
sapcommunity-automl-examples	update community call examples	2 years ago
sapcommunity-hanaml-challenge	Create SAP HANA Cloud Machine Learning Demo - Employee C...	7 months ago



Machine Learning with Intelligent Scenario Lifecycle Management (ISLM)

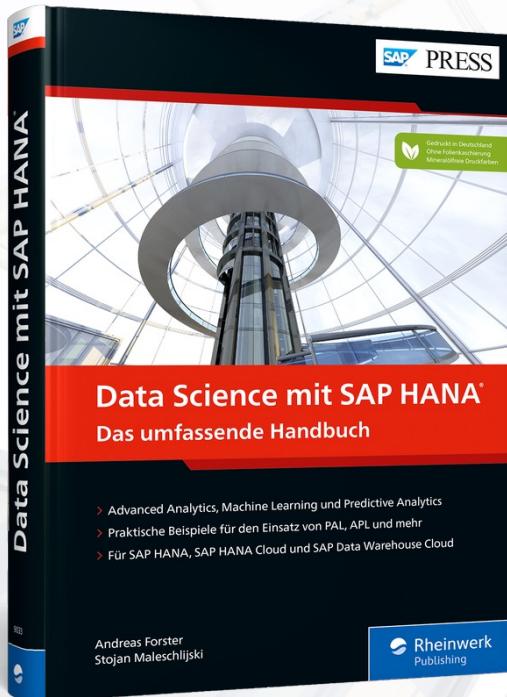
115 pages, 2023, E-Book
ISBN 978-1-4932-2395-4

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



Mit SAP HANA, SAP HANA Cloud und SAP Data Warehouse Cloud ist viel mehr möglich als das Speichern großer Datenmengen.

In diesem Buch erfahren Sie, wie Sie die Automated Predictive Library (APL) und die Predictive Analysis Library (PAL) einsetzen können, um komplexe Auswertungen vorzunehmen und Vorhersagen zu treffen. Praktische Beispiele zu Klassifizierung, Textanalyse, Clustering, Regression u.v.m. zeigen Ihnen die vielfältigen Möglichkeiten auf und lassen sich direkt auf Ihre Anwendungsfälle übertragen.

- Advanced Analytics, Machine Learning und Predictive Analytics
- Praktische Beispiele für den Einsatz von PAL, APL und mehr
- Für SAP HANA, SAP HANA Cloud und SAP Data Warehouse Cloud

Data Science mit SAP HANA

Das umfassende Handbuch

von [Andreas Forster, Stojan Maleschlijski](#)

<https://www.rheinwerk-verlag.de/data-science-mit-sap-hana/>

SAP Business AI portfolio

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



cohere

databricks

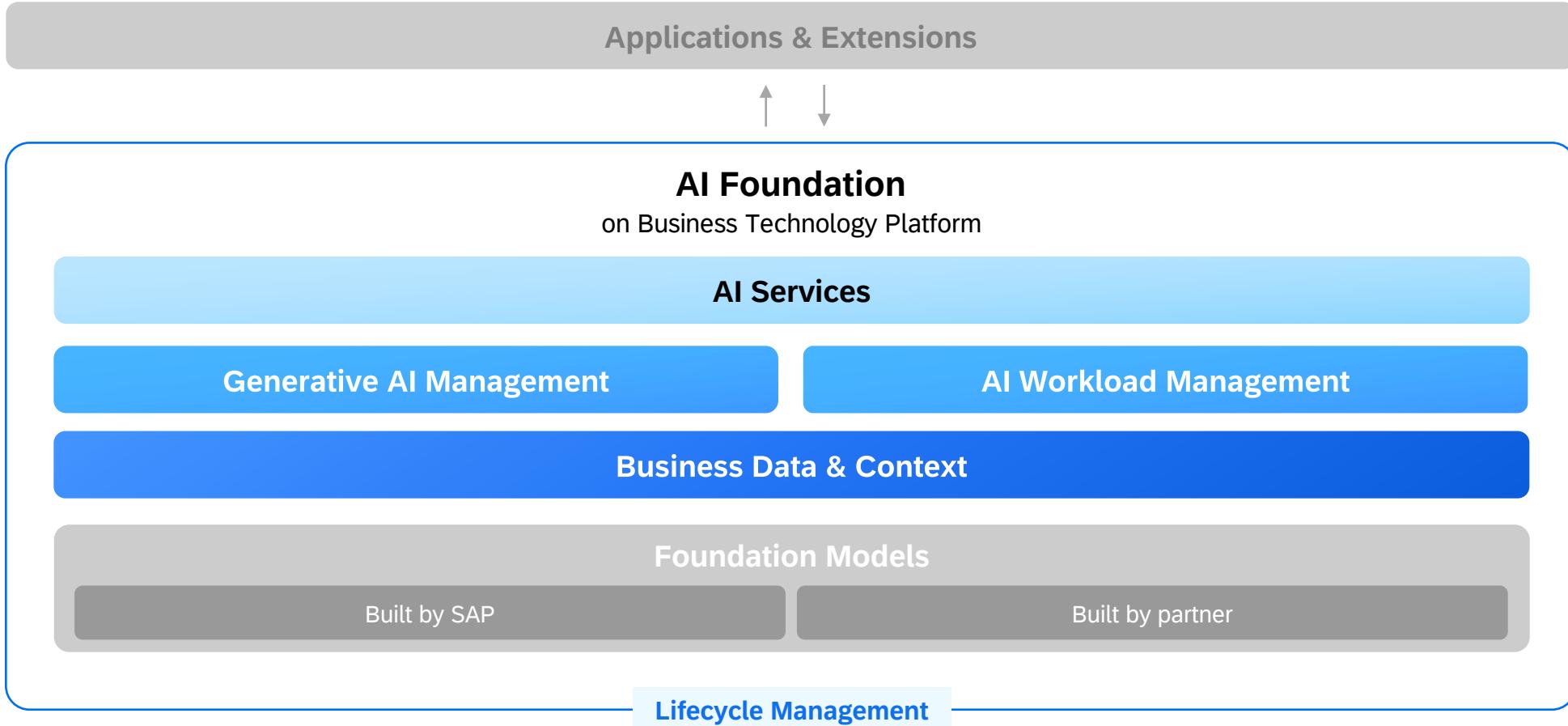
DataRobot

Google Cloud

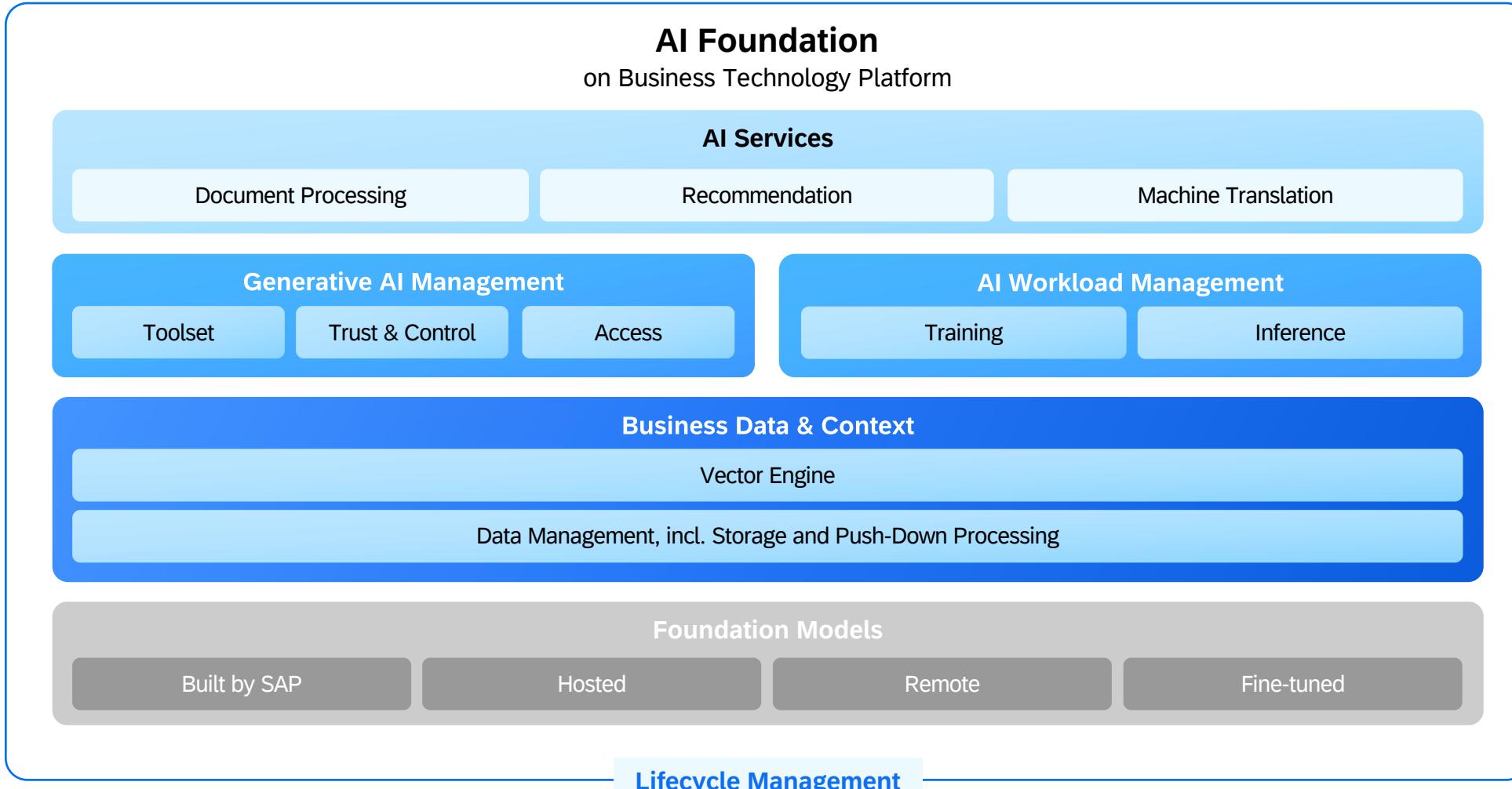
IBM

Microsoft

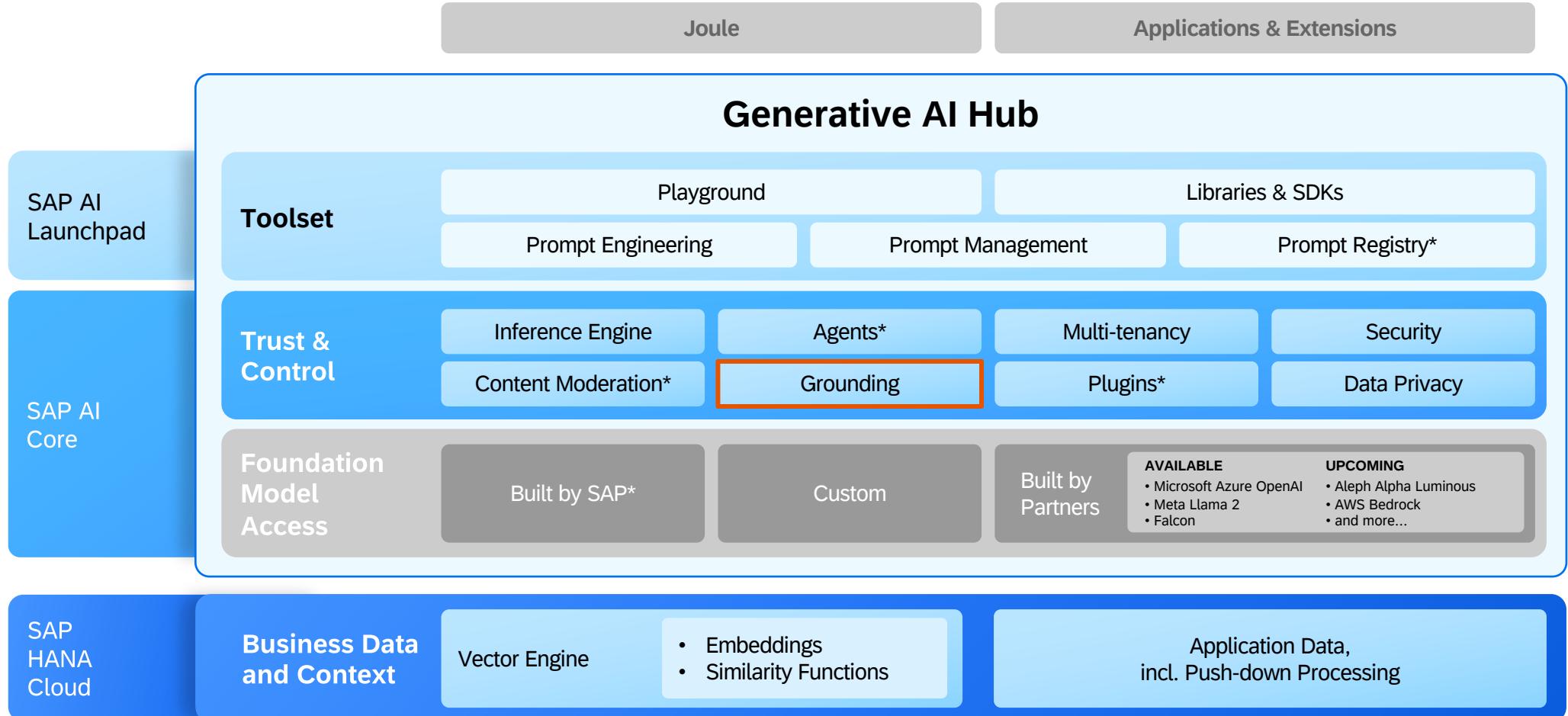
A complete set of services for AI developers on SAP BTP



A complete set of services for AI developers on SAP BTP



Generative AI Hub: integrate AI into applications, seamlessly



Thank you // Дякуємо // Merci!

Contact information:

Witalij Rudnicki
Andreas Forster
Nico Wyss

