Demystifying Artificial Intelligence
Create Your Intelligent Enterprise with SAP Leonardo Machine Learning Capabilities

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Spread the Word using #SAPMMConf and #SAPchemconf
Sources: www.aironair.de, spotify.com, amazon.com
ARTIFICIAL INTELLIGENCE

Early artificial intelligence stirs excitement.

MACHINE LEARNING

Machine learning begins to flourish.

DEEP LEARNING

Deep learning breakthroughs drive AI boom.


Source: Blogs Nvidia
Machine learning is the reality behind artificial intelligence

What is machine learning?

- Computers learn from data without being explicitly programmed.
- Machines can see, read, listen, understand, and interact.

Why now?

- Big Data (for example, business networks, cloud applications, the Internet of Things, and SAP S/4HANA)
- Massive improvements in hardware (graphics processing unit [GPU] and multicore)
- Deep learning algorithms
How enterprise data is transformed into business value
From data to insights

Data
- Text
- Video
- Speech
- Image
... and more

Training
- Prepare data
- Train model
- Apply model
- Capture feedback

Inference
- Applications
  (such as cash application)
- Services
  (such as invoice processing, profile matching)
...and more
The Intelligent Enterprise

- Digital Core
- People Engagement
- Manufacturing & Supply Chain
- Customer Experience
- Network & Spend Management

Intelligent Suite

Intelligent Technologies
- AI
- Machine Learning
- Analytics
- IoT

Digital Platform

Cloud Platform

Data Management
Intelligent Technologies

- AI
- IoT
- Analytics
- Machine Learning

Intelligent Suite

- Network & Spend Management
- People Engagement
- Digital Core
- Manufacturing & Supply Chain
- Customer Experience

Cloud Platform

Digital Platform

AI
Machine Learning
Analytics
IoT

Data Management
How SAP Leonardo Machine Learning helps deliver the Intelligent Enterprise

77% of the world’s transaction revenue
25 industries
7 lines of business
The world’s largest business network

On SAP Cloud Platform & SAP HANA

SAP Leonardo Machine Learning

Intelligent Apps

Conversational AI
Intelligent Robotic Process Automation
ML & Data Science Foundation

Business Outcomes

Increase revenue
Re-imagine processes
Quality time at work
Customer satisfaction
Enabling innovations
**Customer**

- **Name**: Taylor Jones
- **Email**: taylor.jones@gmail.com
- **Phone**: +1 916889696

**Description**

Hello,

My name is Taylor Jones and I am writing to you because I am concerned about our Monarch Smart Fridge. We bought it four weeks ago and the door doesn’t seem to close properly. As the fridge is still under warranty, can you please send a technician to take a look and adjust it.

Thank you very much,*

*Taylor Jones*

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**Service Category Proposal**

- **ID**: 6837
- **Category**: customer support
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Data & Integration

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SAP Conversational AI Revolutionizes Your Customers’ Journeys
60,000 bots were build by our customers and community already

Introducing the Enterprise Grade offer of SAP Conversational AI

Our Enterprise Grade offer makes bot building a smooth process for any corporation wishing to automate their customer support with chatbots. This offer is carried by the release of five major features:

- Smart and accurate
  - Our multi-lingual deep-learning based technology outperforms the best in the world, as proven by Andreessen Horowitz in his AI playbook.

- Fast and easy
  - Our platform makes bot building smooth and quick, amounting to the shortest bot time-to-market in the industry (9 week average) through SAP C/4HANA, SAP CoPilot and other powerful integrations.

- Trained and to-go
  - We are building self-trained and integratable deep intelligence in the telco, banking, insurance and utilities industry.

- Training analytics
- Usage analytics
- Q&A
- Versioning
- Big bot management

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HOME FURNISHINGS BY ACME

At ACME, we know your home is more than just furniture. It is where your day begins and ends. It is a place where everyday moments become special - where dreams become a reality.

TELL ME MORE

ACME HOME
AN INTERACTIVE EXPERIENCE ZONE

Say hello to ACME and experience beautiful home furnishing solutions at #ACMEHome, The Florida Mall, Orlando from 22nd November onwards.

Get a sneak peek into the world of ACME months before the store opening.
Examples: customer implementations for mission-critical processes

**Insurance bot**

- What do you want to do: modify, suspend or cancel your health insurance contract?
  - I want to modify my contract

- Will your modifications concern:
  - your mandatory health insurance (AOS/LAMal)
  - your personal data (name, address, etc)

- my personal data

**Sales advisor bot for parts**

- Hi, I need to change the tires of my Citroen C2
  - 175/65 R14 82T

- What is the size of your car’s current tires?

- What is the motorization of your C2?

- 1,1160

**Account Bot**

- Hi, how much data did I spend last month?
  - In March, you used 4,6Go of data.

- How much did that cost?
  - 3Go of data were included in your subscription, and the 1,6Go extra cost 8€.

- Can I see March’s invoice?

**A Swiss insurance company allows customers to modify contracts** via the bot, so the service team avoids adding staff during peak periods.

Sales advisor helps field services and customers **find the right parts**, integrated into the customer’s CRM / PIM system including a proposal of a purchase.

**SAP CAI** manages 20% of all customer requests for sensitive topics like invoices and phone PUK codes.

SFR on stage at Sapphire: [https://events.sap.com/sapana/safdasug/en/session/37377](https://events.sap.com/sapana/safdasug/en/session/37377)
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SAP Leonardo Machine Learning Foundation
enabling customers and partners to build the intelligent enterprise
Combining Machine Learning services

Product Catalog Images → Image Feature Extraction → Feature Vectors DB → Result

Image Feature Extraction → Similarity Scoring → 100%
Reduce 86% of purchase requisition rejections
Example: Design-led SAP Leonardo prototype delivered within 4 weeks

Challenge

- Up to 40% of purchase requisitions rejected
- Paper-based process prone to mistakes
- Procurement of incorrect parts leading to asset down-time

Benefits

- Increase effectiveness of maintenance, assets, and people
- Reduce working capital and lead time for spare parts
- Successful proof-point for further rapid innovation

Components

- SAP Fiori
- SAP Cloud Platform
- SAP Leonardo Machine Learning Foundation
The car model detector

1. Identify your dream car
2. Object Detection Model
3. Classification Model
4. Find next Mercedes-Benz Dealer
5. Configure your dream car
Reduce incidents and improve workplace safety

**Safety gear identification**
Analyze video snippits/pictures for unsafe conditions

**Process integration**
Make health and safety information actionable

**Compliance dashboard**
Improve safety through real-time global insights

Person (gender: male)
Find and assess legal changes to ensure product compliance
Example: Build new capabilities quickly with ready-to-use services

Challenge

- **1000+** legal changes in **100+** countries per year
- Localized country versions – SAP S/4HANA: 64+
  SuccessFactors Employee Central: 70+
- Challenge to quickly identify relevant changes

Scope

- Classify relevance of new changes
- Alert experts and potentially affected customers
- Initiate follow-up activities

Functional services

- Language detection
- Text classification
- Text feature extraction
- Similarity scoring
$12-20 MILLION

Source: https://www.youtube.com/watch?v=PzTYyz6BPCk&feature=youtu.be
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SAP’s guiding principles for artificial intelligence (AI)

1. We are driven by our values.
2. We design for people.
3. We enable business beyond bias.
4. We strive for transparency and integrity in all that we do.
5. We uphold quality and safety standards.
6. We place data protection and privacy at our core.
7. We engage with the wider societal challenges of AI.
The Human Aspect of Machine Learning

Thinking
SAP Leonardo Machine Learning Foundation

Listening & Speaking
SAP Conversational AI

Acting
SAP Intelligent Robotic Process Automation
Define [Sub]Process + Goal.
Deploy/Collect Data. [Train].
Test + Validate.

Machine Learning (ML): Please approach me to define / with a defined business process
Intelligent RPA and ML Data & Science Foundation: Please approach me for Co-Innovation
Learn more

Websites
- ML overview website
- Product website Machine Learning Foundation
- Developer website ML
- Documentation on SAP Help Portal

Courses
- Enterprise ML in a Nutshell
- Enterprise Deep Learning with TensorFlow
- SAP ML Foundation course in openSAP

Try out
- Try out the MLF APIs on SAP API Business Hub
- Try out ML Services via SAP CP Trial
Thank you.

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