The Future is Now with Machine Learning and Intelligent Digital Assistants

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INNOVATION @SAP

Art-of-the-Possible Roadshow
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SAP Strategy

Be the most innovative cloud company powered by SAP HANA

Win
where we play today

Scale
our platform and build a vibrant ecosystem

Invest
for the future

SAP Innovation Strategy
The ICN Innovation Engine
Agile as a start-up with the backbone of SAP

Personalized Medicine
Machine Learning
Future of Work
Conversational Applications
Blockchain
Multi-Modal User Experience (AR, VR, ...)
Neuromorphic Hardware
Quantum Computing

EXPLORE ➔ IDEATE ➔ VALIDATE ➔ INCUBATE ➔ SCALE

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Software is becoming **smarter**
and this **changes** our daily lives

- Personal Assistants
- Games
- Self Driving Cars
- Image search
Sneak preview of ongoing productizations …
Scheduled for release in Q1/Q2 2017

Cash application
Resume matching
Brand intelligence
Ticketing intelligence
Customer retention insights
Video: SAP Clea for Brand Intelligence
Example: SAP Clea for Brand Intelligence
Optimize your marketing ROI through brand intelligence and sponsorship insights

Select the brands to monitor
Select the brand attributes you would like to monitor and the media they appear in

View analysis in the interactive tool
View the statistics and compare to the other brands

Estimate your brand exposure ROI
Estimate ROI in sponsorship contracts and optimize logo placement for maximum exposure

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SAP Clea for Customer Retention Insights

- Incoming dynamic data from various channels
- Sort, classify & route events
- Identification of customers who are about to churn

Build an overview of the customer journey
Identify critical events/churn indicators
Take proactive actions to prevent customers from churning
SAP Clea for Customer Retention Insights

Insights Discovery Engine

- Customer Data
  - User Guide
  - Consultancy to identify data sources

- CRI Core Tables
  - Attributes
  - User Defined
  - Digital Fingerprint
  - Reaction

- Event Discovery Engine

- Replication
  - SAP Data Integration
  - Base Table
  - Industry specific

- Machine Learning
  - Parameterized
  - User Defined Reaction Type
  - Real-time
  - Patented
  - Learn from raw transactions over long periods

- Score Fingerprint
  - Threshold
  - Top Reasons
  - Fingerprint pattern

- Prediction Algorithm
  - Implemented in SQL to speed

- Customer Retention Insights Application

- Risk
  - Threshold
    - Fingerprint pattern
    - (User Defined)
    - to create subset

- Time
  - Automation
SAP Clea – Platform Architecture
Enable developers and partners to apply machine learning

API Business Hub

SAP Clea Applications

Invoice Processing
Profile Matching
Service Analytics

ML Business Services

Text
Image / Video
Advanced Numerical

ML Technical Services

Data Science Interface
Python
Golang
TensorFlow
Docker
Kubernetes

Provisioning Infrastructure

Training Infrastructure

SAP Clea on SAP Cloud Platform

User

Developer

Data Scientist
Chatbots Use Case: HanaHaus Bot

HanaHaus:
Public Café & Co-working Space in Downtown Palo Alto by SAP

Motivation
• Enabling HanaHaus customers to interact with the reservation system using natural language
• Simplify user experience for recurring booking

Features
• Reserve, extend, and cancel reservations through text messages
• Answer common questions regarding HanaHaus and the reservation process
Example: HanaHaus Bot

ARCHITECTURE

Twilio

Reservation System

Reservation System API

HanaHaus Bot

- Intent Matching
- Entity Extraction
- Memory Management
- Function Execution
- Response Repository
- FAQ Handling

NLP Libraries

Cloud Platform
Digital Assistant Use case: SAP Fiori Copilot

**Digital Assistant for SAP Applications**

- **Conversational (Multi-Modal) UI**
  Communicates in natural language via text, gesture or voice. Enables to converse with others, within the business context.

- **Business Context Awareness**
  Offers insights based on roles, context and business situation. Recognizes business objects on the screen or within conversations.

- **Quick Actions**
  Offers suggestions to help decide on the proper course of action. Quick creation of business objects, prompting for minimal input.

- **Learns and Recommends**
  Starting with pre-defined business rules and gradually learning from behavioral data, recommending next best actions to the user.
Thank you.
Stay curious!

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SAP Clea for Service Ticket Intelligence
Automatic classification and suggested responses of customer service tickets

Categorize tickets
Read ticket content, determine category, and automatically route ticket

Suggest solution
Provide potential solutions to agent

Boost customer experience
Improve resolution rate, time to resolution, closure rate

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