

AI and Machine Learning on AWS

Julien Simon
Global AI/ML Evangelist
Amazon Web Services

@julsimon
<https://julsimon.medium.com>
<https://youtube.com/juliensimonfr>

The reach of AI and Machine Learning is growing



INCREASED SPENDING

By 2024, global spending
on artificial intelligence
will reach \$110 billion



FROM PILOTING TO OPERATIONALIZING

By the end of 2024, 75%
of enterprises will shift from
piloting to operationalizing AI



AI TRANSFORMATION


57% said that AI would
transform their organization
in the next three years

Over 100,000 customers use AWS for AI and ML



<https://ml.aws>

Common use cases



Predictive Maintenance

Manufacturing,
Automotive, IoT



Demand Forecasting

Retail, Consumer
Goods, Manufacturing



Fraud Detection

Financial Services,
Online Retail



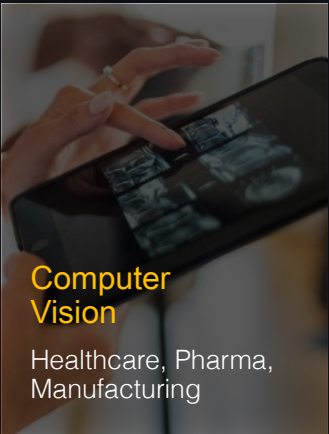
Credit Risk Prediction

Financial Services,
Retail



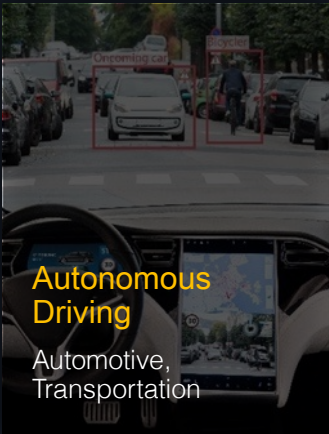
Extract and Analyze Data from Documents

Healthcare, Legal,
Media/Ent, Education



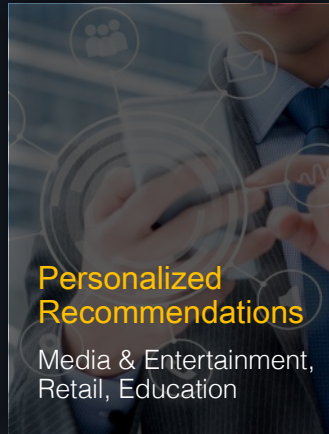
Computer Vision

Healthcare, Pharma,
Manufacturing



Autonomous Driving

Automotive,
Transportation



Personalized Recommendations

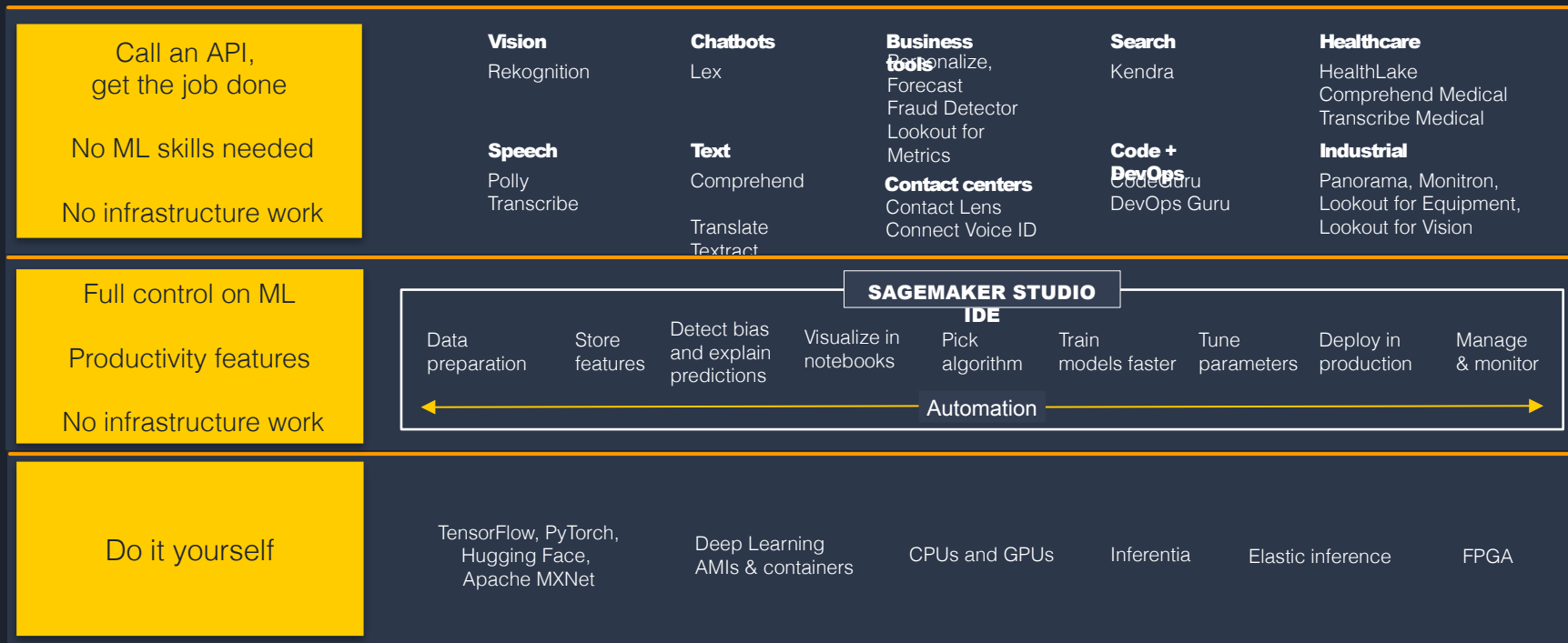
Media & Entertainment,
Retail, Education



Churn Prediction

Retail, Education,
Software & Internet

The **AWS AI and ML stack**



Best Western International uses Amazon Connect for Customer Support



“ *Without Amazon Connect, who knows if we would have been able to keep our agents online.* ”

Steven Walmsley
IT Architect
Best Western

Company

Best Western International, Inc. owns the Best Western Hotels & Resorts brand, which it licenses to over 4,500 hotels worldwide.

Use Case

The Milano contact center supports 14 languages in over 35 countries. Best Western decided to migrate it to Amazon Connect to improve service quality... right in the middle of the COVID-19 pandemic!

Outcome

Annual telecom expenses were reduced by more than 40% because of the complete removal of all local provider circuits and associated hardware.

Dynamic prompting with Polly has eliminated 96% of pre-recorded prompts across 11 different languages.

Amazon uses Amazon SageMaker for Visual Bin Inspection



- New solution was developed in 12 weeks
- New models are now launched in 2 weeks instead of 3–6 months
- AWS spend has been reduced 40%
- Prediction latency has been cut in half

Company

Amazon Fulfillment Technologies (AFT) designs, develops, and operates fulfillment technology solutions for Amazon.

Use Case

AFT analyzes **millions of bin images every day** to monitor shipments, and identify missing or misplaced inventory.

Outcome

AFT replaced their legacy solution with SageMaker. They now use to develop new algorithms, deploy them, and scale them, **replacing 1,000 EC2 CPU instances** with a single fully-managed, auto-scaled GPU endpoint.

Selected Machine Learning Projects Led by Reply on AWS

<https://www.reply.com/en/aws>

BMW

Automotive

Translate automotive text reliably and consistently

Train Deep Learning models on internal data collected over time

Deploy them as a low-cost shared service

→ Save time and money thanks to high-quality translations

Monte Titoli

Financial Services

Extract insights from financial data

Build a data lake in less than 6 months

Train and deploy models with Amazon SageMaker

→ 50% less time required to design and execute a full ML workflow

→ 75% cost reduction on updating models

Lavazza

Food and Beverage

Identify potential production anomalies in advance

Train ML models on environmental and machine data stored in a data lake

→ Predict quality of the next batch

→ Identify parameters responsible for quality flaws

Enel

Energy

Optimize the planning of maintenance teams in Italy

Develop a quantum-inspired model to optimize the work of maintenance teams

→ Maximize time spent working

→ Minimize time spent on the road

Demo

5 Steps to Getting Started with AI and ML

1. What **business questions** are you trying to answer?
2. Which ones have the **highest ROI** for your business?
3. What **business metrics** will you use to measure success?
4. Availability of **data**? Maturity of **data platform**? Depth of **DS/ML skills**?
5. Find the right AWS services and start iterating!



Thank you!

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