

Machine Learning developer in “Business”

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Short URL :

<https://aka.ms/cs492>

All code and PPT files

[illegible]

Who is he?



What service?

33000000



DEMO

<http://how-old.net/>

#HowOldNumbers

4 Days:

- 33M user
- 1.2M visit / hour
- 236M images
- 10K images / sec
- 1.7M FB shares



DEMO

Face API

<https://www.celebslike.me/>

DEMO

Intelligent Kiosk

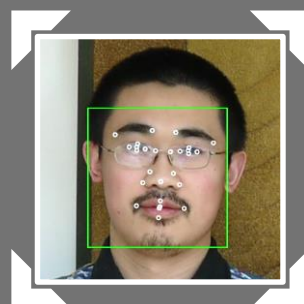


Face recognition API – face detection



INPUT
IMAGE

DETECTION



FACIAL
RECTANGLE + LANDMARKS

ATTRIBUTES

Detection Result:

JSON:

```
[
  {
    "faceRectangle": {
      "width": 109,
      "height": 109,
      "left": 62,
      "top": 62
    },
    "attributes": {
      "age": 31,
      "gender": "male",
      "headPose": {
        "roll": "2.9",
        "yaw": "-1.3",
        "pitch": "0.0"
      },
      "faceLandmarks": {
        "pupilLeft": {
          "x": "93.6",
          "y": "88.2"
        },
        "pupilRight": {
          "x": "138.4",
          "y": "91.7"
        }
      }
    },
    ...
  }
]
```



Face recognition API – same face detection

Given two faces, determine whether they are the same person



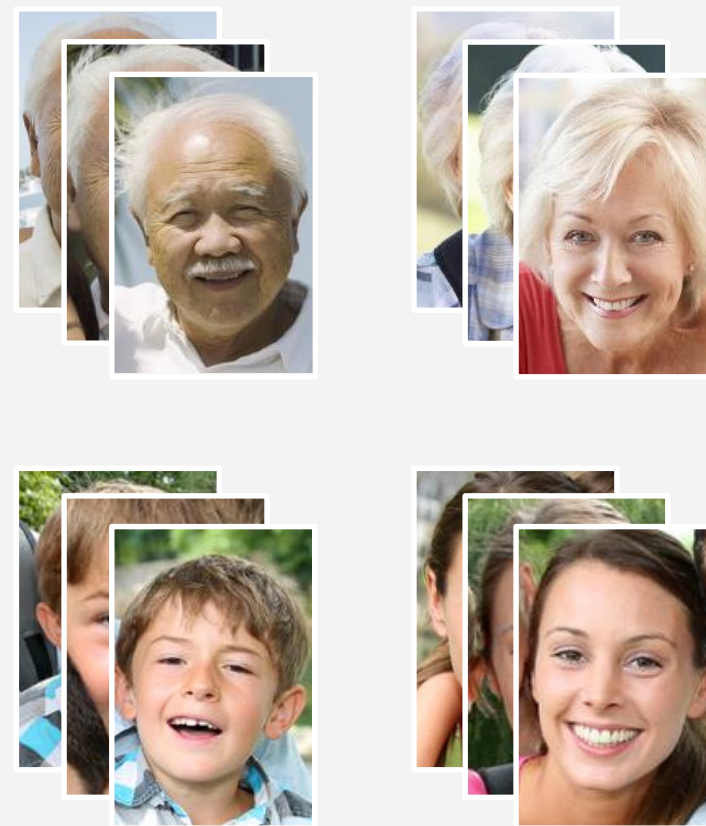
Verification Result:

JSON:

```
[  
  {  
    "isIdentical":false,  
    "confidence":0.01  
  }  
]
```



Face recognition API – Grouping



CLUSTERED BY
DETECTED PEOPLE

DEMO

Sentiment analytics – Text API


Video

Dartmouth-Hitchcock medical service

Real-world ML – product suggestion

- Traditional suggestion
 - Cross sell / up sell / discount
 - Most;y, manual suggestion w/ business logic
- Used in most of online shop services

Frequently Bought Together




Price for all three: **\$279.70**

[Add all three to Cart](#) [Add all three to Wish List](#)


[Show availability and shipping details](#)

- ☒ **This item:** Nokia Lumia 920 Smartphone - unlocked - White **\$259.80**
- ☒ ArmorSuit MilitaryShield - Nokia Lumia 920 Screen Protector Shield + Lifetime Replacement \$9.95
- ☒ Nokia Lumia 920 Low Profile Covert Branded PU Leather Wallet Case (Black) \$9.95


Customers Who Bought This Item Also Bought




Nokia Lumia 920 Low Profile Covert Branded PU Leather Wallet Case (Black)
★★★★☆ (262)
\$9.95 ✓Prime




ArmorSuit MilitaryShield - Nokia Lumia 920 Screen Protector Shield + Lifetime Replacement
★★★★☆ (335)
\$9.95 ✓Prime




NOKIA LUMIA 920 HYBRID RUBBERISED BACK COVER CASE - SOLID BLACK
★★★★☆ (161)
\$6.95 ✓Prime




Nokia Lumia 920 Black Factory Unlocked 32GB phone 4G LTE
★★★★☆ (184)
\$236.99 ✓Prime




Skinomi® TechSkin - Nokia Lumia 920 Screen Protector Premium HD Clear Film with ...
★★★★☆ (196)
\$8.95 ✓Prime




Nokia Lumia 920 Low Profile Covert Branded PU Leather Wallet Case (Purple)
★★★★☆ (262)
\$8.95 ✓Prime



Nokia Lumia 920 Premium PU Leather Wallet Case with Floral Interior (Red)
★★★★☆ (126)
\$8.95 ✓Prime



The Friendly Swede Bundle of 10 Colorful Silicone Covers Cases Skins for Nokia Lumia ...
★★★★☆ (134)
\$12.77 ✓Prime



MP Ant Pro 920
★
\$0.



JJ Foods – Churn Prediction

JJ Food Service

- Customers

- Fast food +
- Retail
- School food
- Hotel
- Catering

- Year 2014

- 8 subsidiary
- 60,000 customers
- 4,500 products
- 1M + purchase orders



JJ Food Service

- top 20% churn prediction
3x more revenue(Prev.
random)
- 200+ churn prediction,
45% prevent user = 17%
churn





Real world ML – USPS

The United States Postal Service processed over 150 billion pieces of mail in 2013—far too much for efficient human sorting.

But as recently as 1997, only 10% of hand-addressed mail was successfully sorted automatically.



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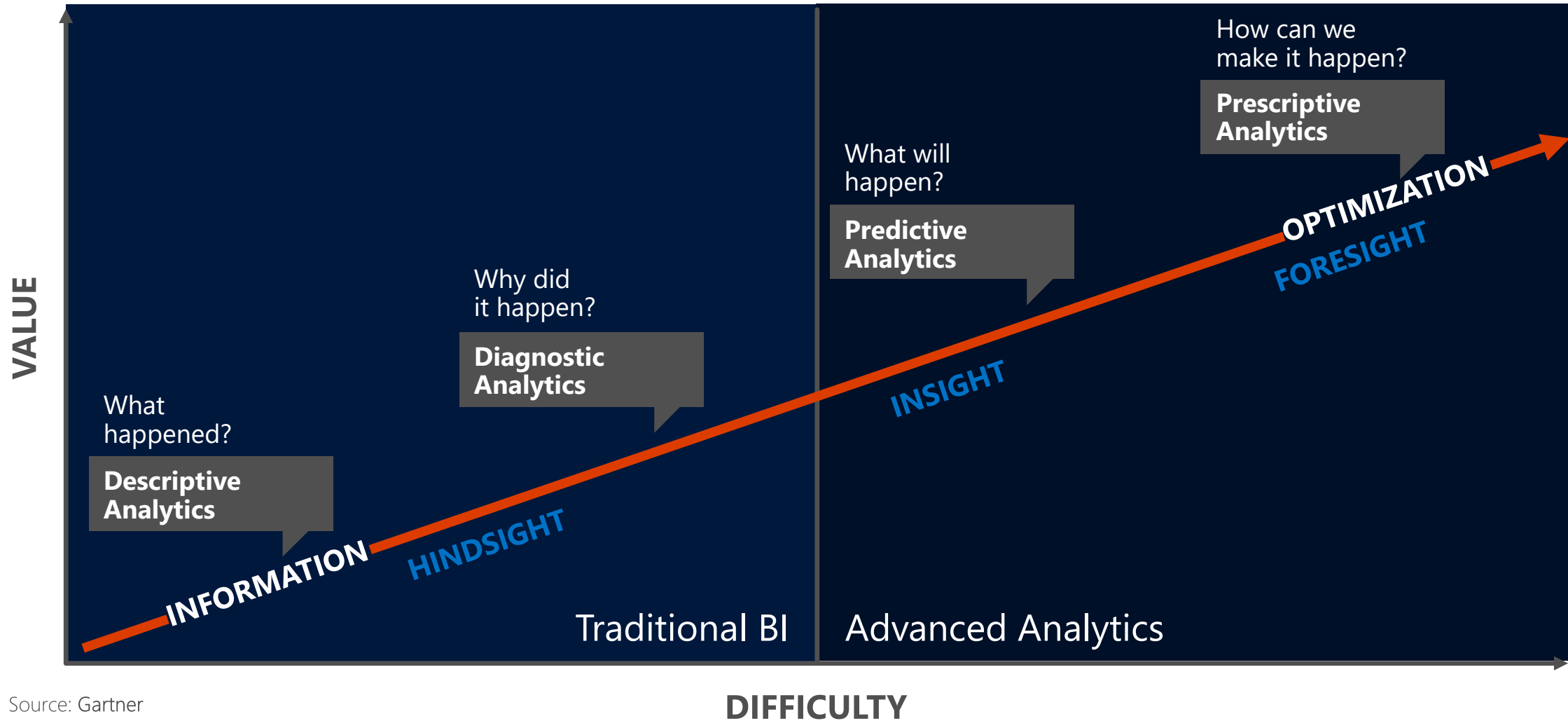
Learning various hand-writing and
recognize
- 98%+ accuracy

Transformational trends



Advanced Analytics

Business Intelligence or ML



Demo

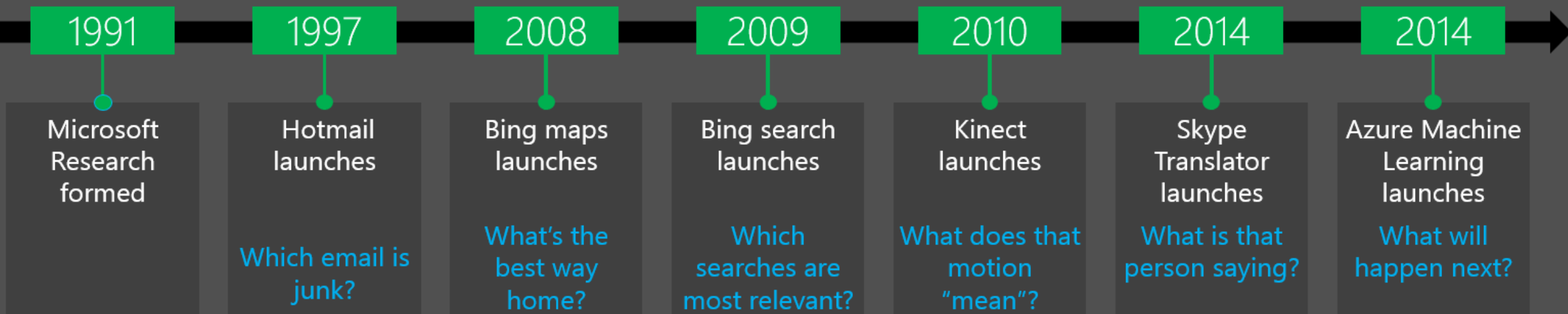
Bot framework

Power – BI DEMO

<https://powerbi.microsoft.com/>

Microsoft & Advanced Analytics

Answering questions with experience



John Platt,

Distinguished scientist at
Microsoft Research

“Machine learning is pervasive throughout Microsoft products.”

Advanced Analytics scenarios



EXAMPLE SOLUTIONS



Sales
and marketing



Finance
and risk



Customer
and channel



Operations
and workforce



Sales forecasting



Fraud detection



User segmentation



Agent allocation



Demand forecasting



Credit risk management



Personalized offers



Warehouse efficiency



Sales lead scoring



Product recommendation



Smart buildings



Marketing mix
optimization

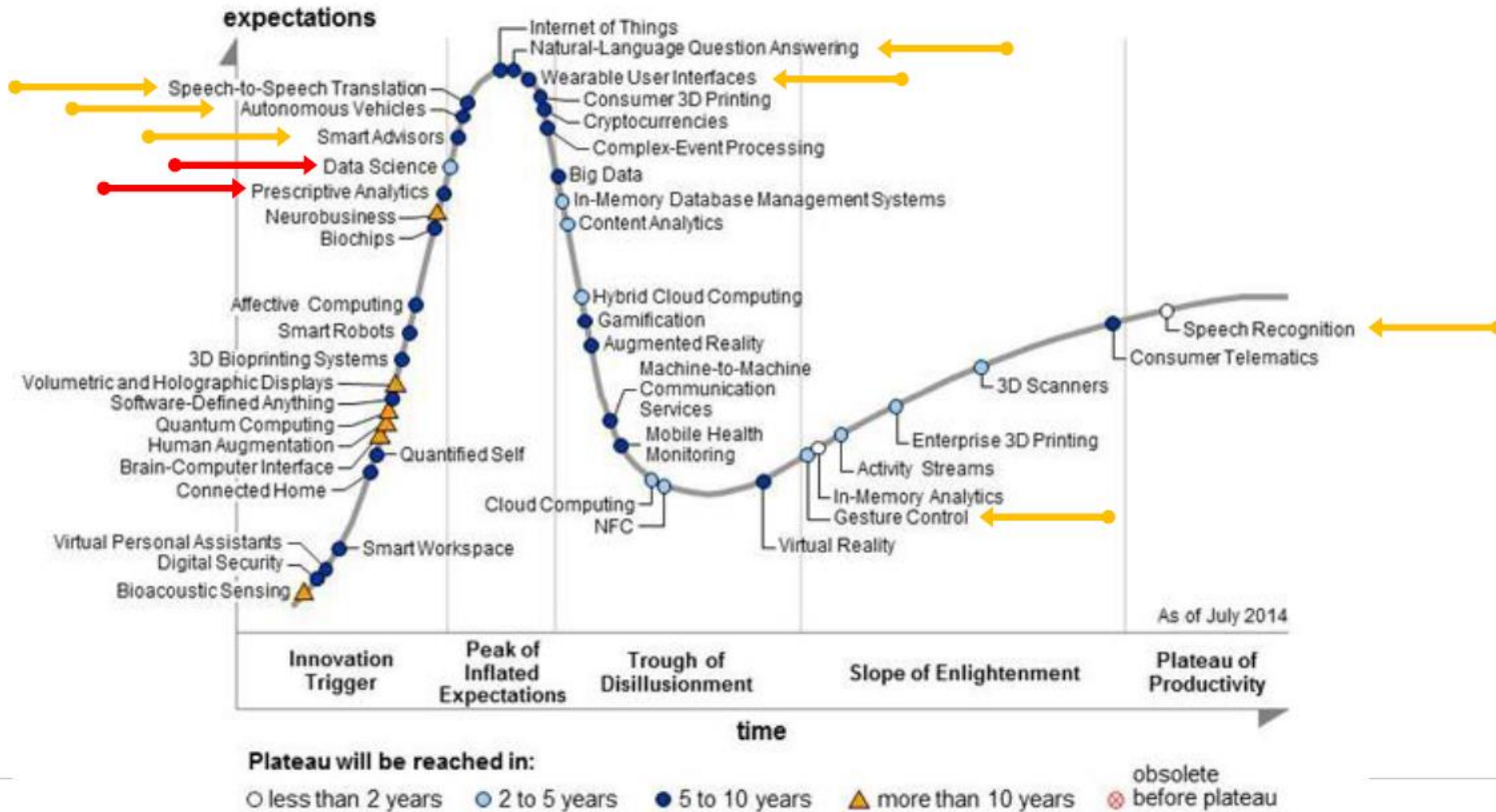


Predictive maintenance

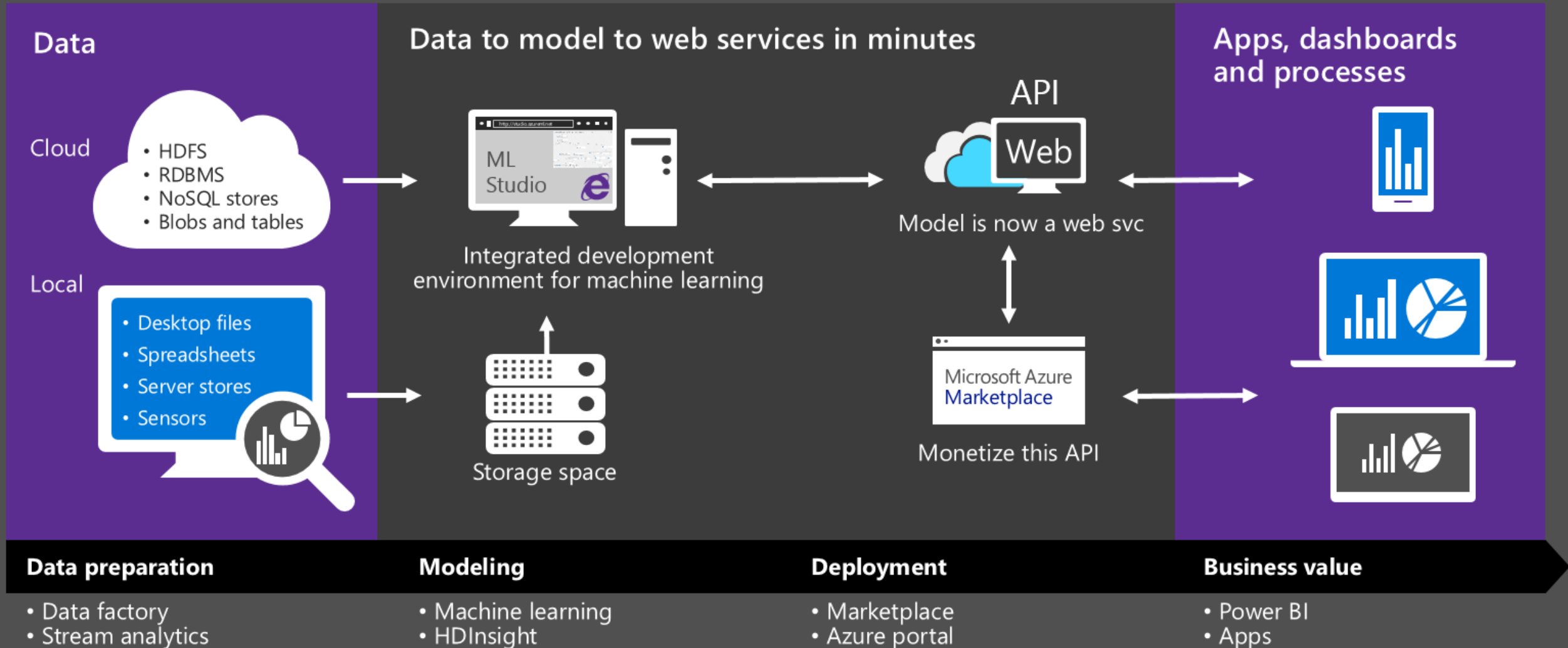


Supply chain optimization

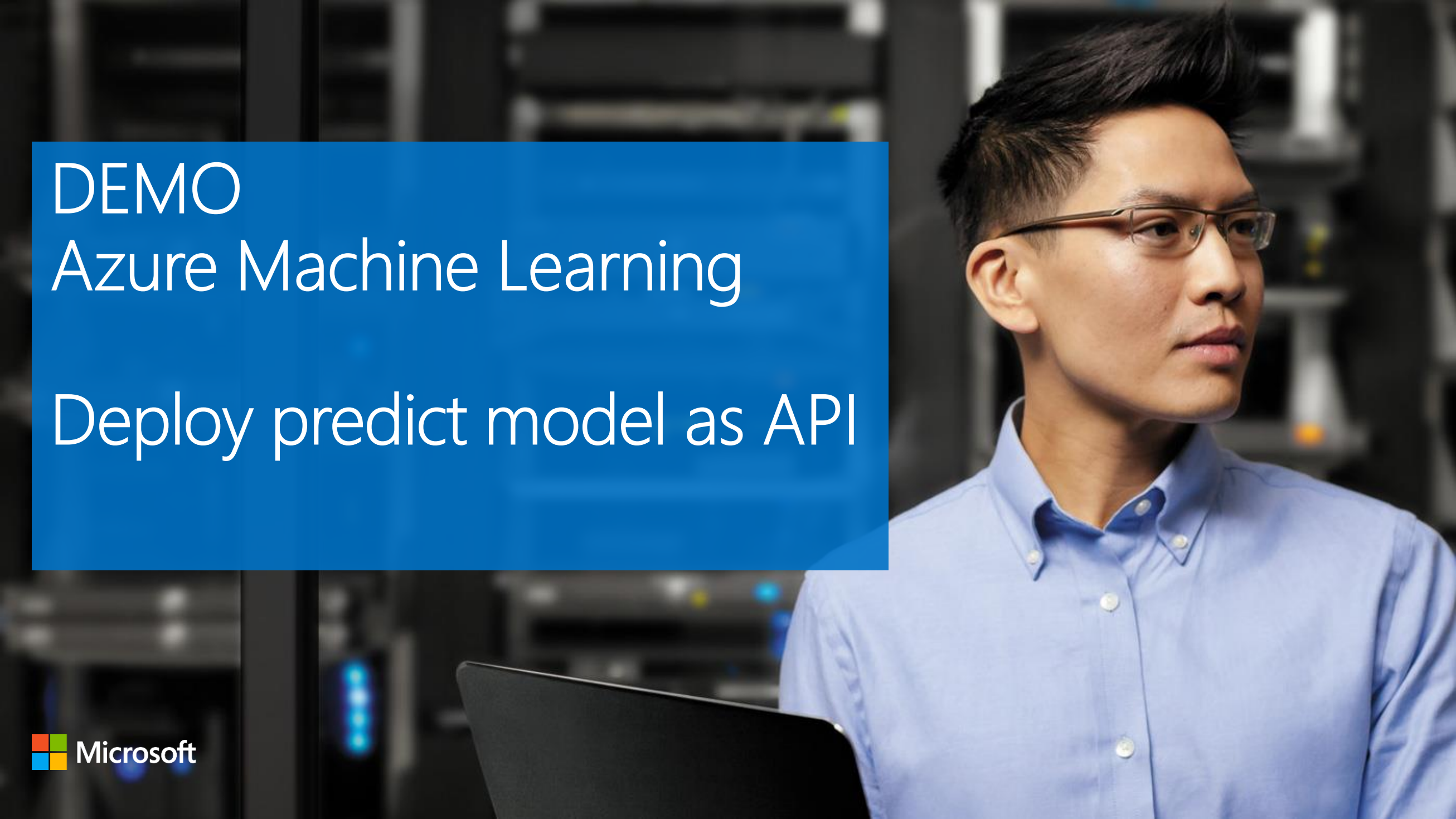
THE HYPE: Gartner Hype Cycle 2015: Big Data/Data Science



Advanced analytics architecture



Machine learning DEMO – building training model

A man with dark hair and glasses, wearing a light blue button-down shirt, is looking at a laptop. He is in a server room with racks of equipment in the background. A blue semi-transparent box is overlaid on the left side of the image, containing white text.

DEMO

Azure Machine Learning

Deploy predict model as API

Azure Machine Learning target

Make machine learning accessible to every enterprise, data scientist, developer, information worker, consumer, and device anywhere in the world.

