

마이크로소프트 AI 로드맵

최영락

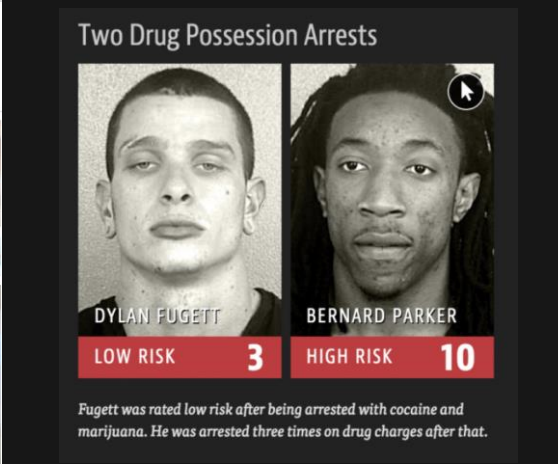
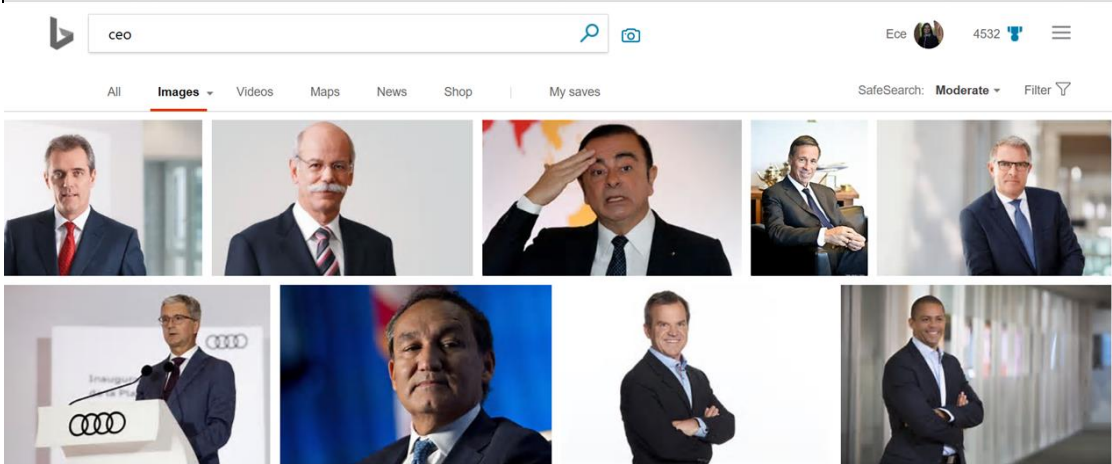
한국마이크로소프트

Global AI Bootcamp

Seoul, Korea (Dec 14, 2019)

AI will have a considerable impact on business and society as a whole





Microsoft's AI Principles



Fairness



Reliability
& Safety



Privacy &
Security



Inclusiveness

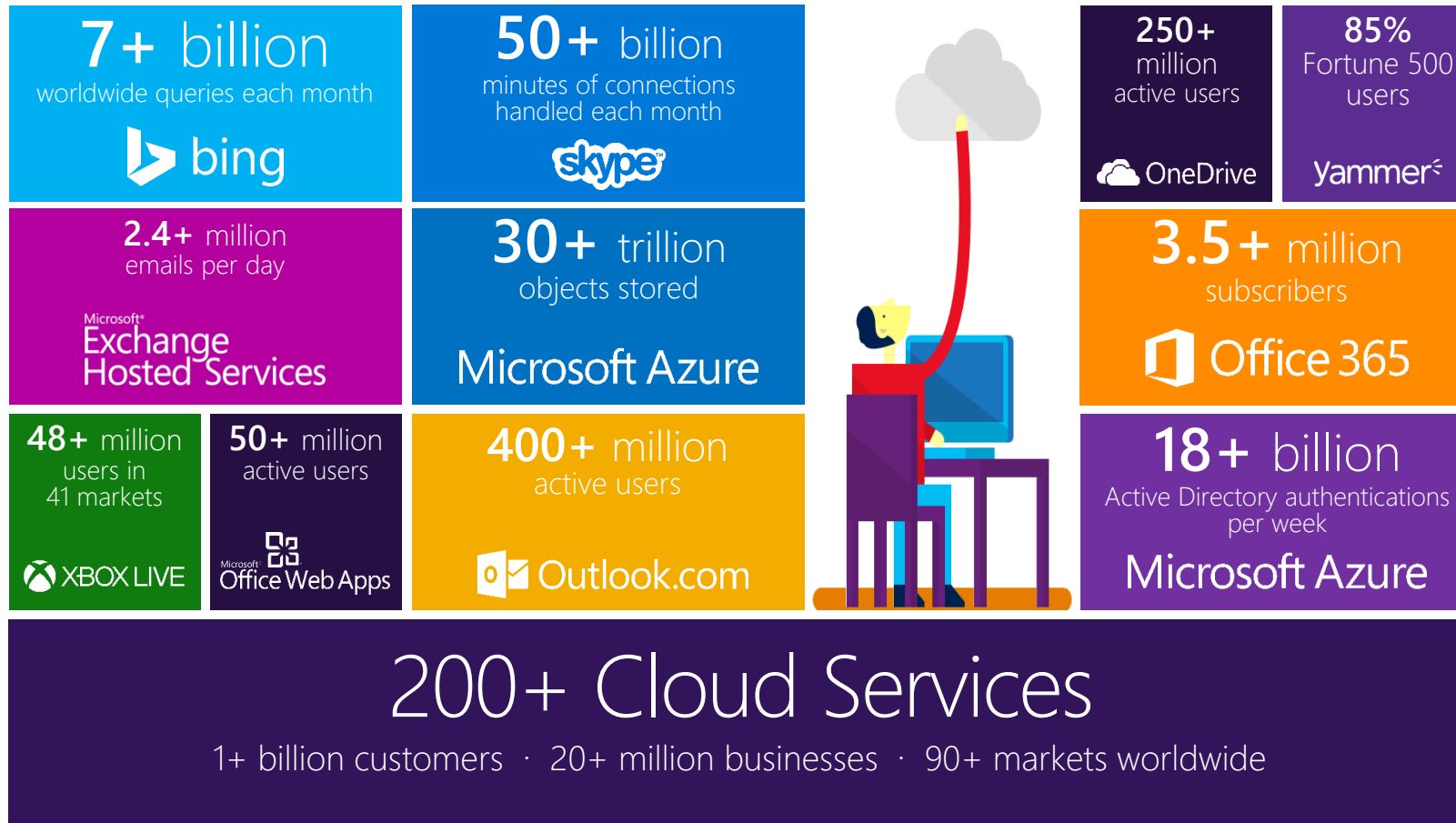


Transparency



Accountability

다양한 Microsoft 서비스 (& 다방면으로 추가되는 AI 기능)



Azure AI

정교하게 미리 학습된 모델

솔루션 개발을 손쉽게 구현하기 위한 방법



유용한 프레임워크 활용

고급 딥 러닝 솔루션을 구축하기 위한 방법



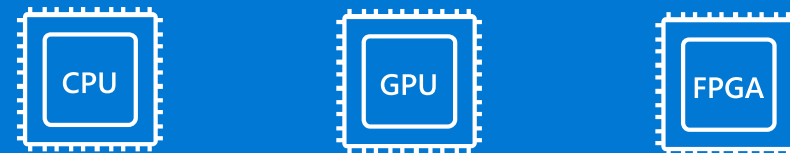
다양한 서비스 활용을 통한 생산성 향상

Data science와 개발팀을 위한 역량 강화



강력한 인프라스트럭처

효율적이고 원활한 딥 러닝 환경제공

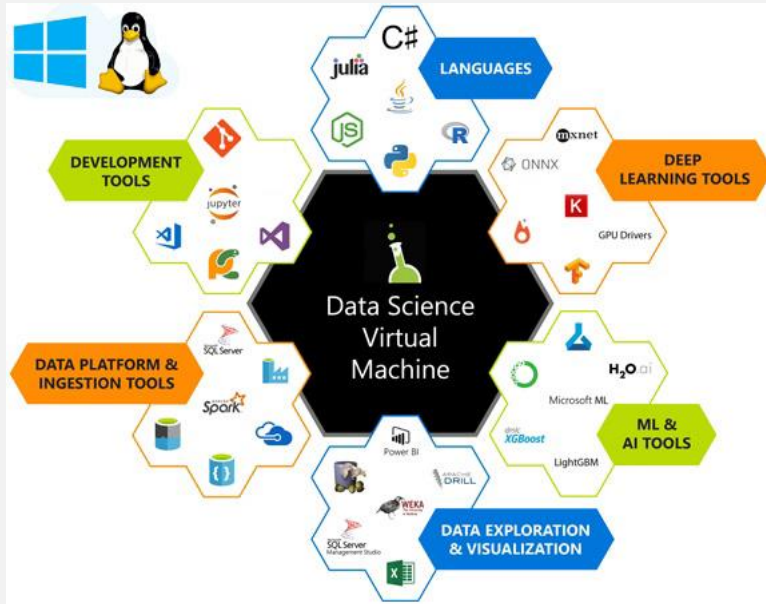


유연하고 다양한 배포 모델

인텔리전트 클라우드와 Edge환경 모두 적용가능한 배포 및 관리 지원



Azure DSVM / VM 사용 CPU based vs. GPU based (가격: 미국 동부 기준)

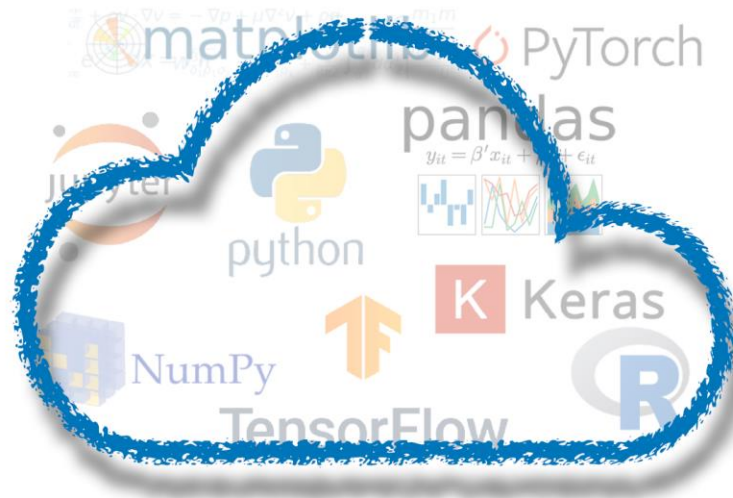


Windows DSVM



Linux DSVM

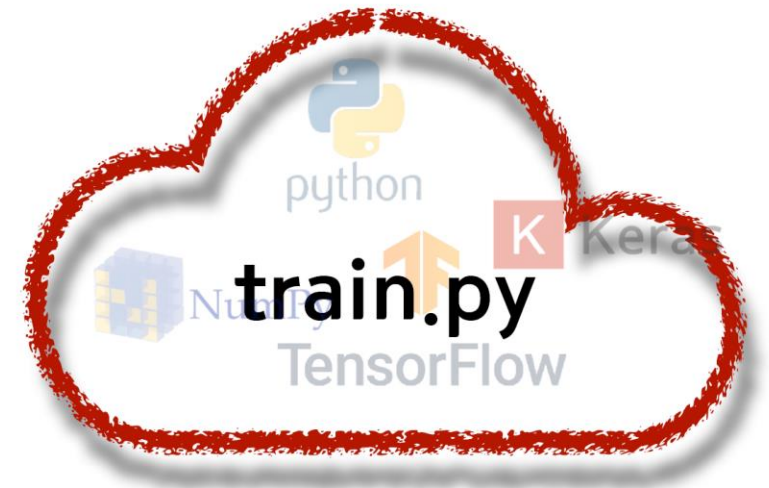
Notebook Virtual Machine



D2_V3 standard
vCPU 2, 8GB RAM, 50GB

😊 \$ 0.188/hour

Remote Compute



GPU NC12
Core 12, 112GB RAM, 680GB
Intel Xeon E5-2690 v3 2.60GHz v3

😱 \$ 2.168/hour

누구나 쉽게 할 수 있는 Azure AI 활용



쉽게 AI 모델 자체 제작

Intelligent Kiosk
Custom Vision


<https://youtu.be/P5h8fE2UAXM>

Intelligent Kiosk


Custom Vision Explorer

Target Project:

KoreanFoodClassifierGA



You can improve the results through Active Learning.
Click here to find out how.



Food Item	Confidence
김밥	99%
계란찜	2%
갈치구이	2%
꼬막찜	2%
된장찌개	2%
감자채볶음	1%
김치찌개	1%
갈비탕	1%

#IntelligentKiosk

Microsoft

Powered by Microsoft Cognitive Services
P.S. We don't keep the photos

Azure Machine Learning Studio

The screenshot displays the Microsoft Azure Machine Learning Studio interface. The top navigation bar includes the title "Microsoft Azure Machine Learning Studio", the user name "Yeongrak Choi-Free-Work...", and icons for help, team, and profile. The left sidebar contains a search bar and a list of experiment items: Saved Datasets, Trained Models, Data Format Conversions, Data Input and Output, Data Transformation, Feature Selection, Machine Learning, OpenCV Library Modules, Python Language Modules, R Language Modules, Statistical Functions, Text Analytics, Time Series, and Web Service. The main workspace shows a workflow titled "Walmart Sales Forecasting Using Regression Analysis" in draft status. The workflow starts with three input datasets: "walmart-features - Copy.csv", "walmart-train - Copy.csv", and "walmart-stores - Copy.csv". These are joined and then split into two paths. The left path involves training a model and scoring it, while the right path involves training a model and scoring it. The workflow concludes with an "Evaluate Model" step. A "Mini Map" view is visible in the bottom left of the workspace. The right sidebar contains the "Properties" and "Project" tabs, with the "Experiment Properties" section showing "START TIME", "END TIME", "STATUS CODE" (InDraft), and "STATUS DETAILS" (None). The "Summary" section states: "The Objective is predict the weekly sales of 45 different stores of Walmart." The "Description" section prompts the user to "Enter the detailed description for your experiment." The bottom toolbar includes icons for "NEW", "RUN HISTORY", "SAVE", "SAVE AS", "DISCARD CHANGES", "RUN", "SET UP WEB SERVICE", and "PUBLISH TO GALLERY".

Microsoft Azure Machine Learning Studio

Yeongrak Choi-Free-Work...

Walmart Sales Forecasting Using Regression Analysis

In draft

Draft saved at 오전 2:15:11

Search experiment items

Mini Map

Properties Project

Experiment Properties

START TIME -

END TIME -

STATUS CODE InDraft

STATUS DETAILS None

Summary

The Objective is predict the weekly sales of 45 different stores of Walmart.

Description

Enter the detailed description for your experiment.

Quick Help

NEW

RUN HISTORY

SAVE

SAVE AS

DISCARD CHANGES

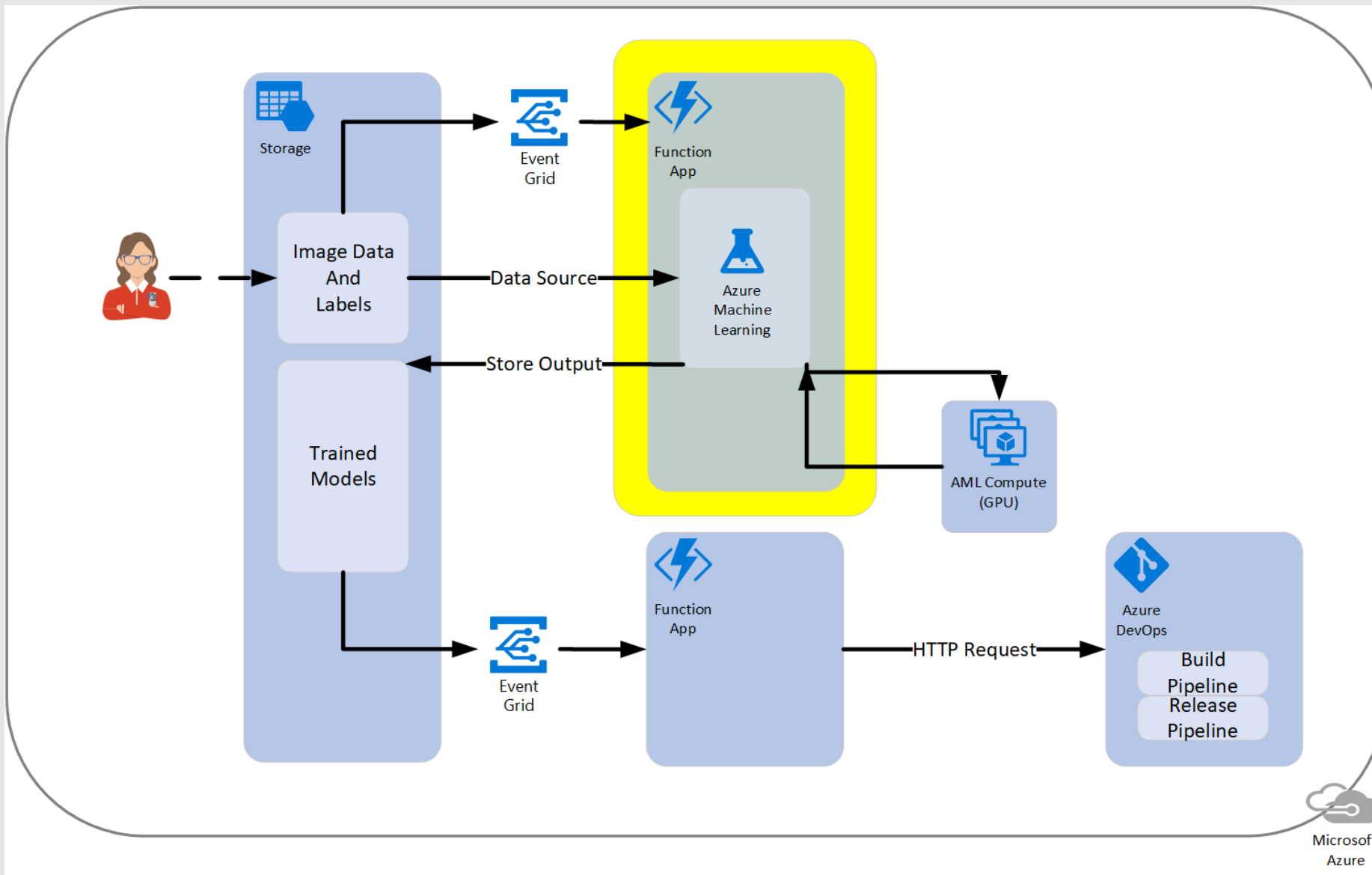
RUN

SET UP WEB SERVICE

PUBLISH TO GALLERY

**Implementing machine learning by
yourself on "Studio"!**

Azure Machine Learning 서비스를 활용한 아키텍처



Cognitive
Service

Customized
Cognitive
Service

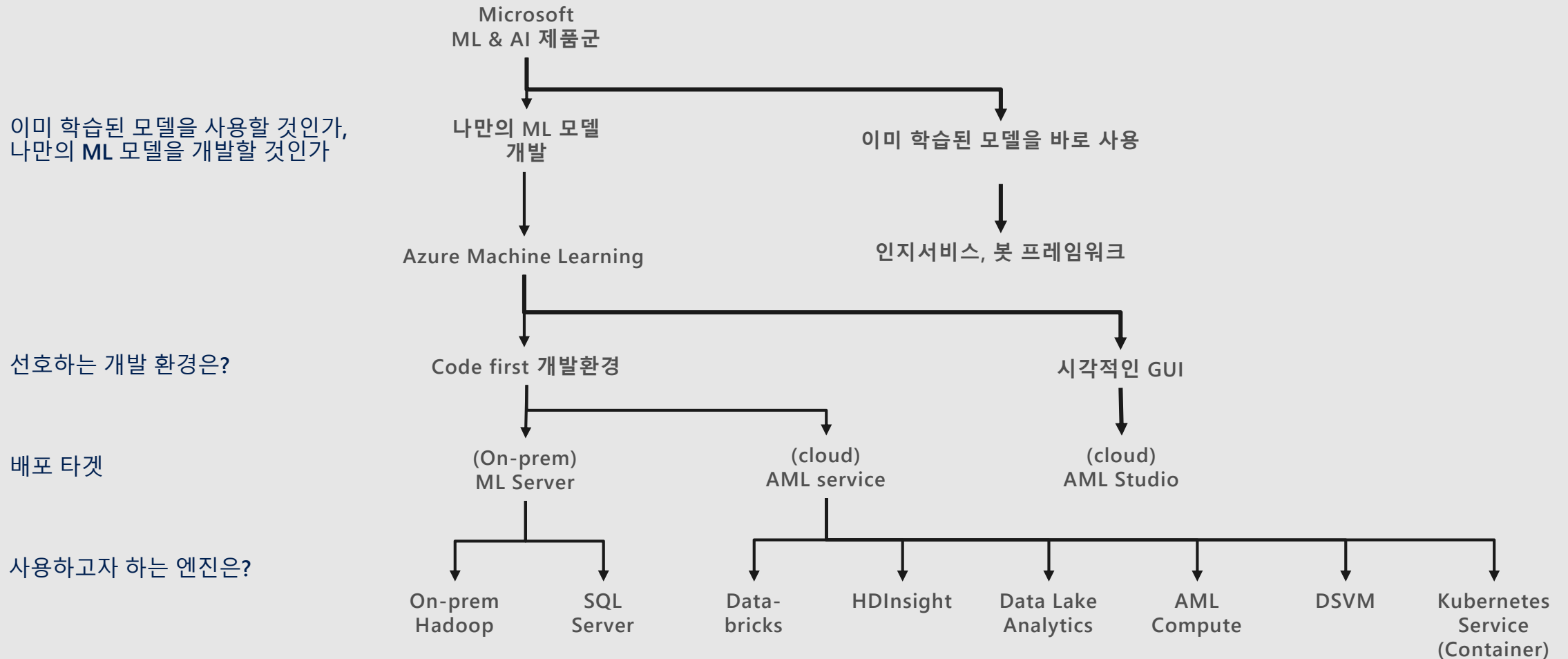
Azure ML
Studio

Azure ML
service



Microsoft AI: 어디에서부터 시작해야할 것인가?

접근 시나리오 및 선호하는 개발환경/배포위치/활용엔진에 따라서 최적의 솔루션을 선택합니다.



AutoML: 모델 개발 가속화

Which features?

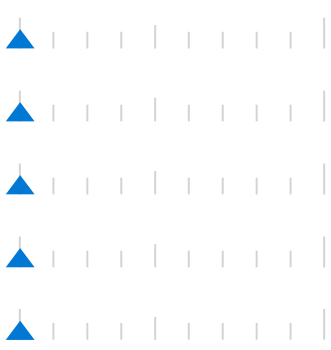
- Mileage
- Condition
- Car brand
- Year of make
- Regulations
- ...

Which algorithm?

- Gradient Boosted
- Nearest Neighbors
- SVM
- Bayesian Regression
- LGBM
- ...

Which parameters?

- Parameter 1
- Parameter 2
- Min Samples Split
- Min Samples Leaf
- Others



30%
Model

AutoML: 모델 개발 가속화

Which features?

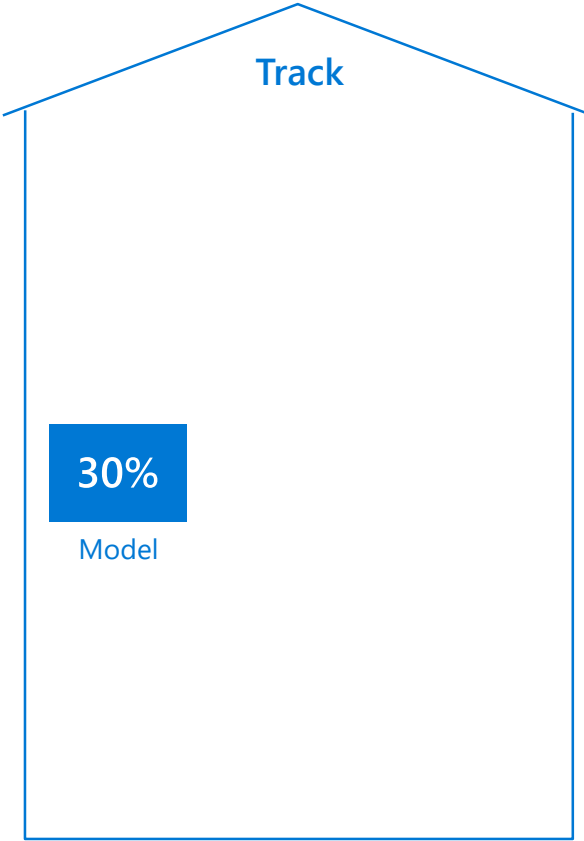
- Mileage
- Condition
- Car brand
- Year of make
- Regulations
- ...

Which algorithm?

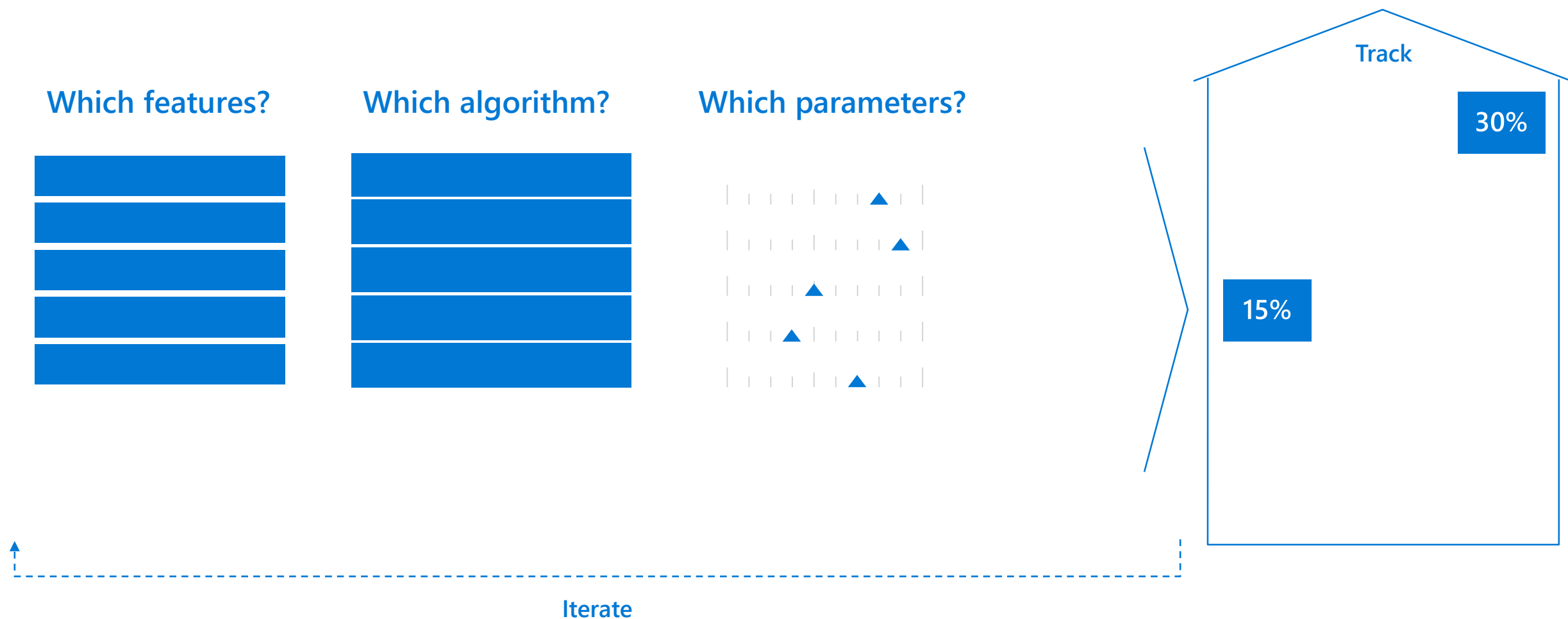
- Gradient Boosted
- Nearest Neighbors
- SGD
- Bayesian Regression
- LGBM
- ...

Which parameters?

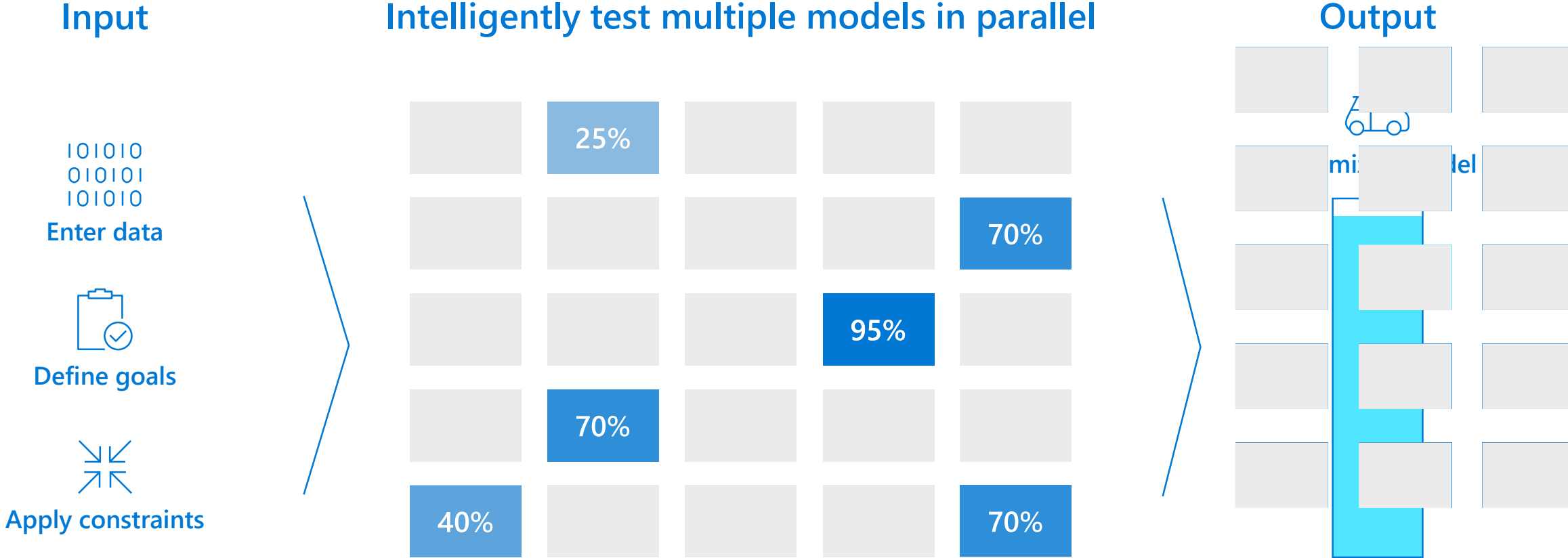
- Critereion
- Neighbors
- Weights
- Min Samples Split
- Min Samples Leaf
- XYZ



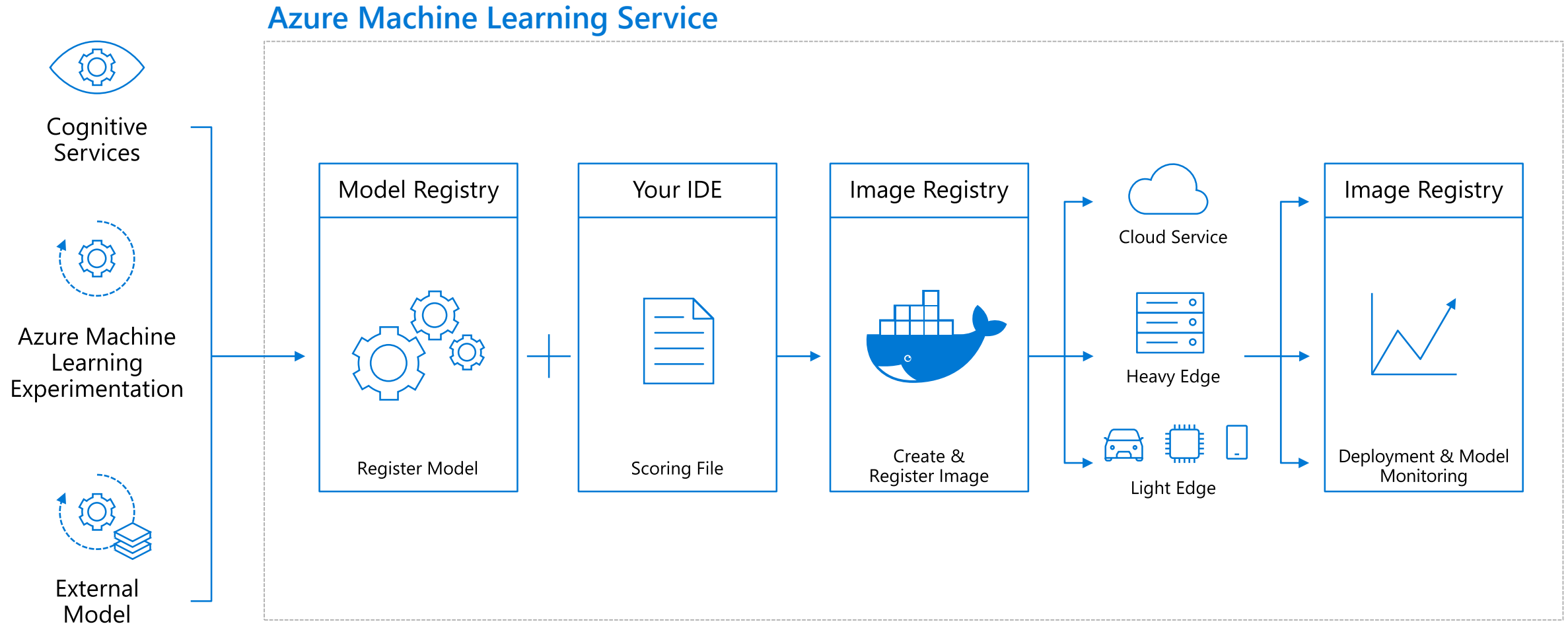
AutoML: 모델 개발 가속화



AutoML: 모델 개발 가속화



Production 확장도 충분한 Azure ML 서비스



Microsoft AI Platform: Azure + AI

AI SERVICES

CONVERSATIONAL AI

Azure Bot Service

AI MODULES

Cognitive Services

DEVICES

Azure IoT Edge

AI INFRASTRUCTURE

AI ON DATA

Cosmos DB

SQL DB

SQL DW

Data Lake

AI COMPUTE

Spark

DSVM

Batch AI

ACS

Edge

CPU, GPU, FPGA

AI TOOLS

CODING & MANAGEMENT TOOLS

VS Tools for Machine Learning

Azure ML Studio

Azure ML Workbench

Others (Pycharm, Jupyter notebooks...)

DEEP LEARNING FRAMEWORKS

Cognitive Toolkit

TensorFlow

Caffe

Others (Scikit-learn, MXNet, Keras, Gluon...)

시작 -

Microsoft Learn

학습에 대한 새로운 접근 방식 소개

경력을 발전시키고 최고의 위치에서 입지를 다지는 데 필요한 기술은 쉽게 얻을 수 있는 것이 아닙니다. 여기 빠른 목표 달성에 도움이 되는 실습 교육에 대한 성과 보답형 방식이 있습니다. 포인트를 쌓고 레벨을 높이고 더 많은 것을 이루세요!



모듈

Azure 소개

30분

시작

학습 경로

실습 교육

무료 학습

지금 바로 학습하기

현재의 개발자 및 기술자에게 맞춤화되고 업계가 인정한 **Microsoft 인증**을 준비할 수 있도록 설계된 모듈 또는 학습 경로로 실력을 향상하세요.

역할 선택 ∨





Microsoft Ignite The Tour

Learn. Connect. Explore.

서울 | 2020. 1. 21 - 22

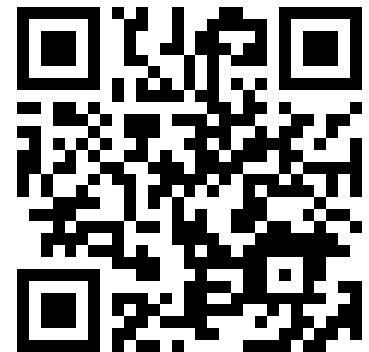


무료 행사
개발자 대상

100+ 심층분석
세션과 워크숍

350+ 전문가
학습 및 네트워크

등록 페이지: aka.ms/ignite Seoul



Global AI Bootcamp