

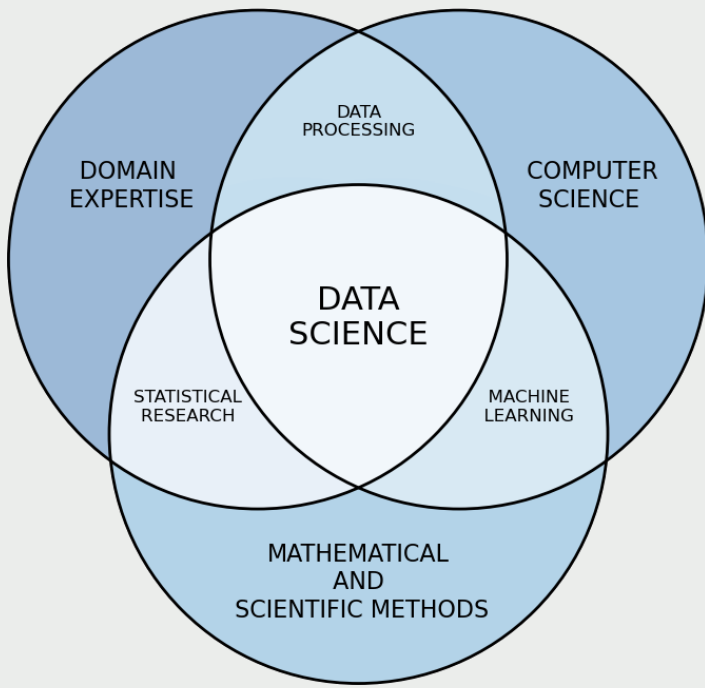
ISE 311 VERİ BİLİMİ

Dr. Öğretim Üyesi

Tuğrul TAŞCI

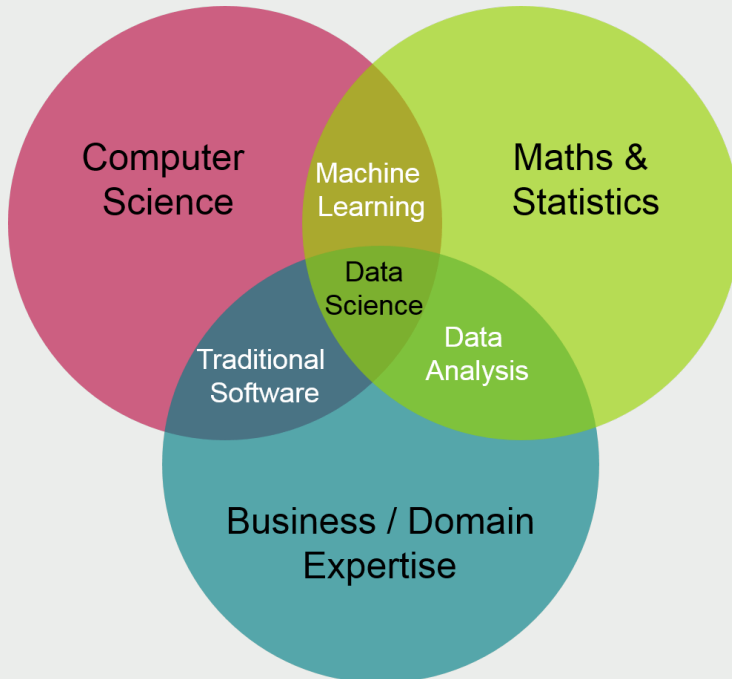
Literatür, Temel Tanım ve Kavramlar

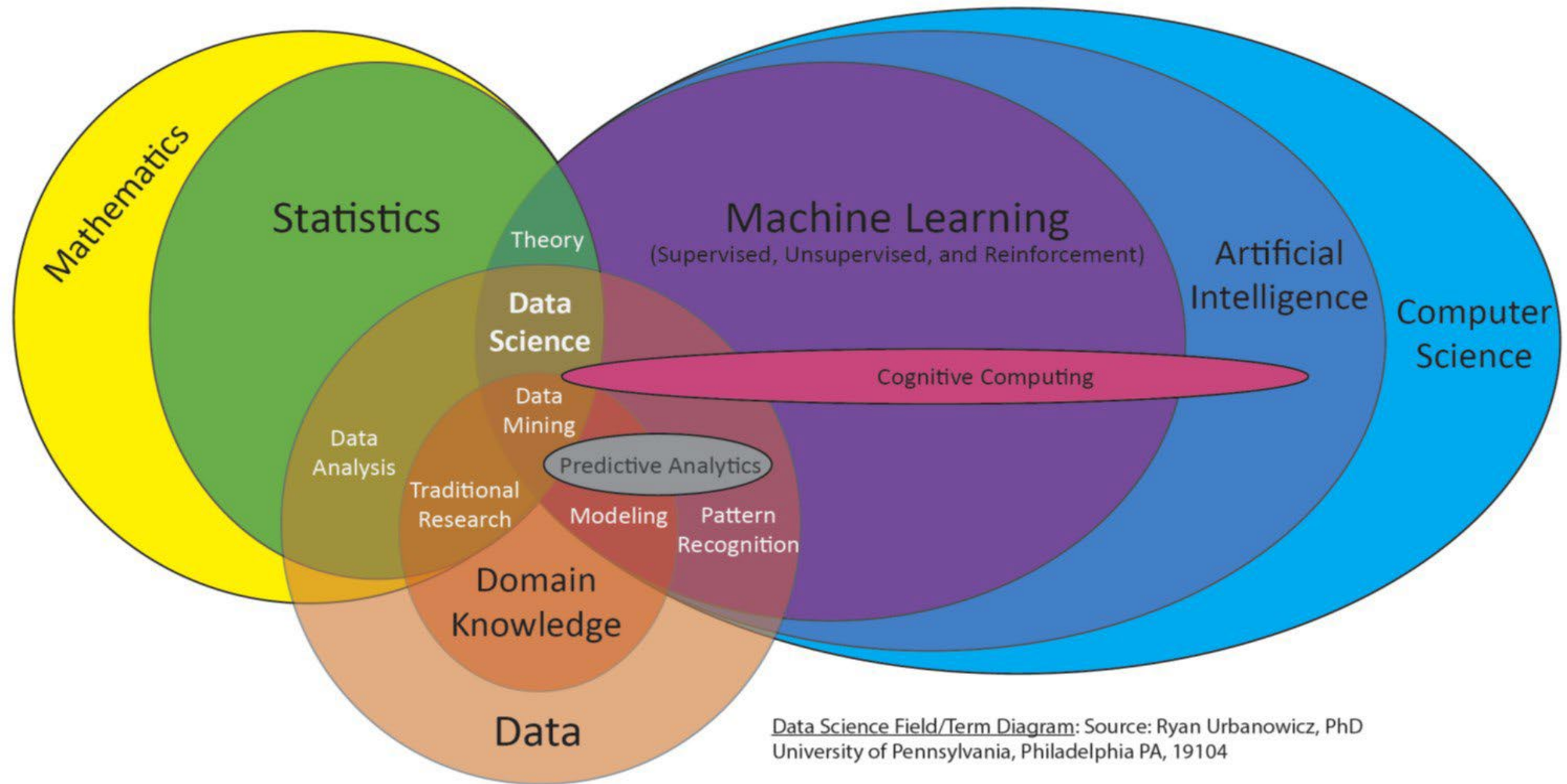


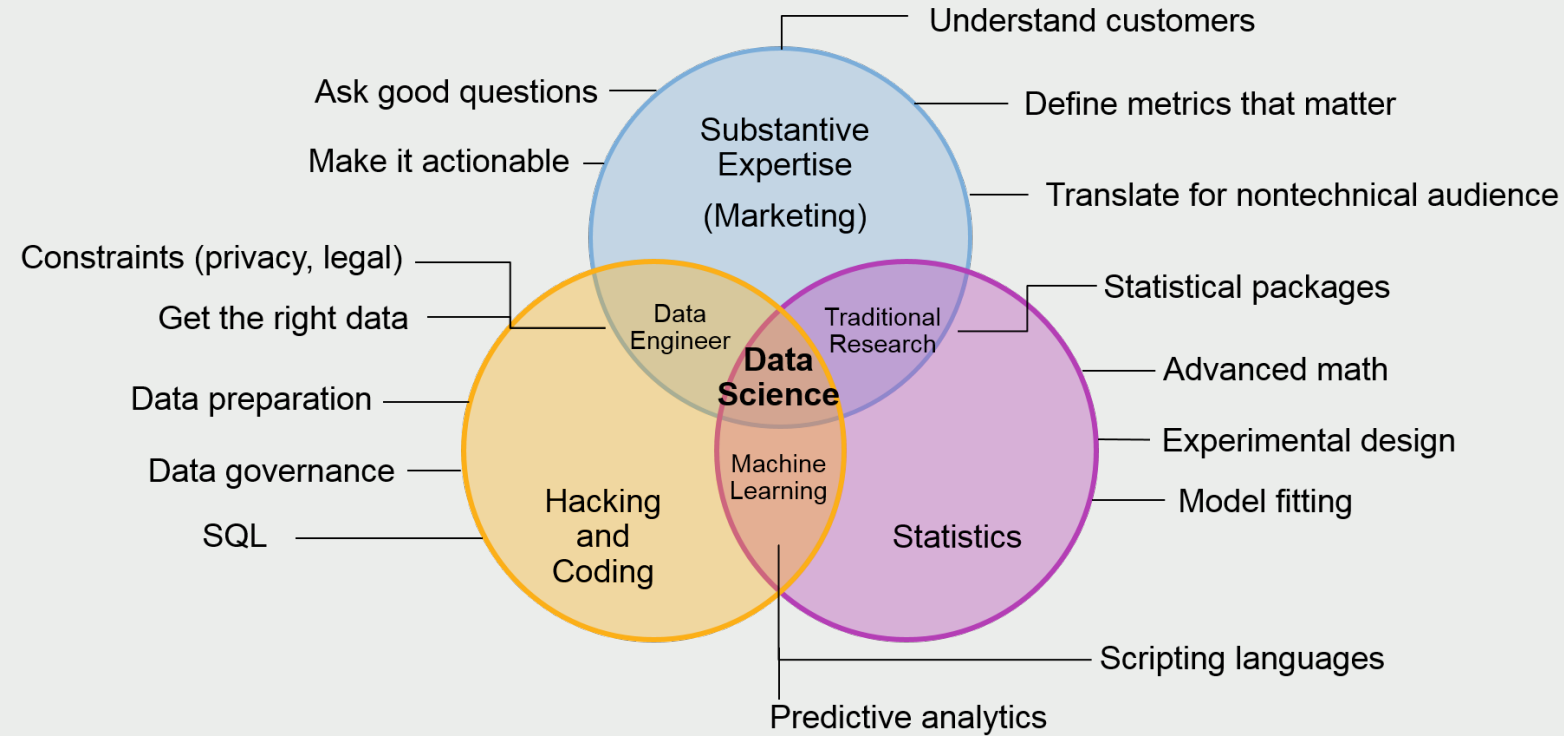


Veri Bilimi Nedir?

Faaliyet alanına ait bilgi ve tecrübe ile bilgisayar bilimleri, matematik ve istatistiğe ait yöntem ve araçlara dayalı olarak kurumsal veri kaynakları üzerinden anlamlı bilgilerin çıkarılması yoluyla iş süreçleri ile ilgili karar alma ve stratejik planlama yapmayı sağlayan disiplinler arası bir bilim ve çalışma alanıdır.







Veri Bilimi – Alt Disiplinler

Alt Disiplin & Yürütülen Süreçler

Artificial Intelligence (AI)

Human Intelligence Exhibited by Machines

Amazon purchase prediction

Smart Email Categorization

Machine Learning (ML)

An Approach to Achieve Artificial Intelligence

Google Maps speed of traffic Facebook facial recognition

Netflix video recommendation

Deep Learning (DL)

A Technique for Implementing Machine Learning

Self-Driving Cars

Speech Recognition

Robotics

1950's

1980's

2010's

Data Science

Scientific methods, algorithms
and systems to extract
knowledge or insights from
big data

Data Analysis

Process of inspecting, cleansing,
transforming and modeling data

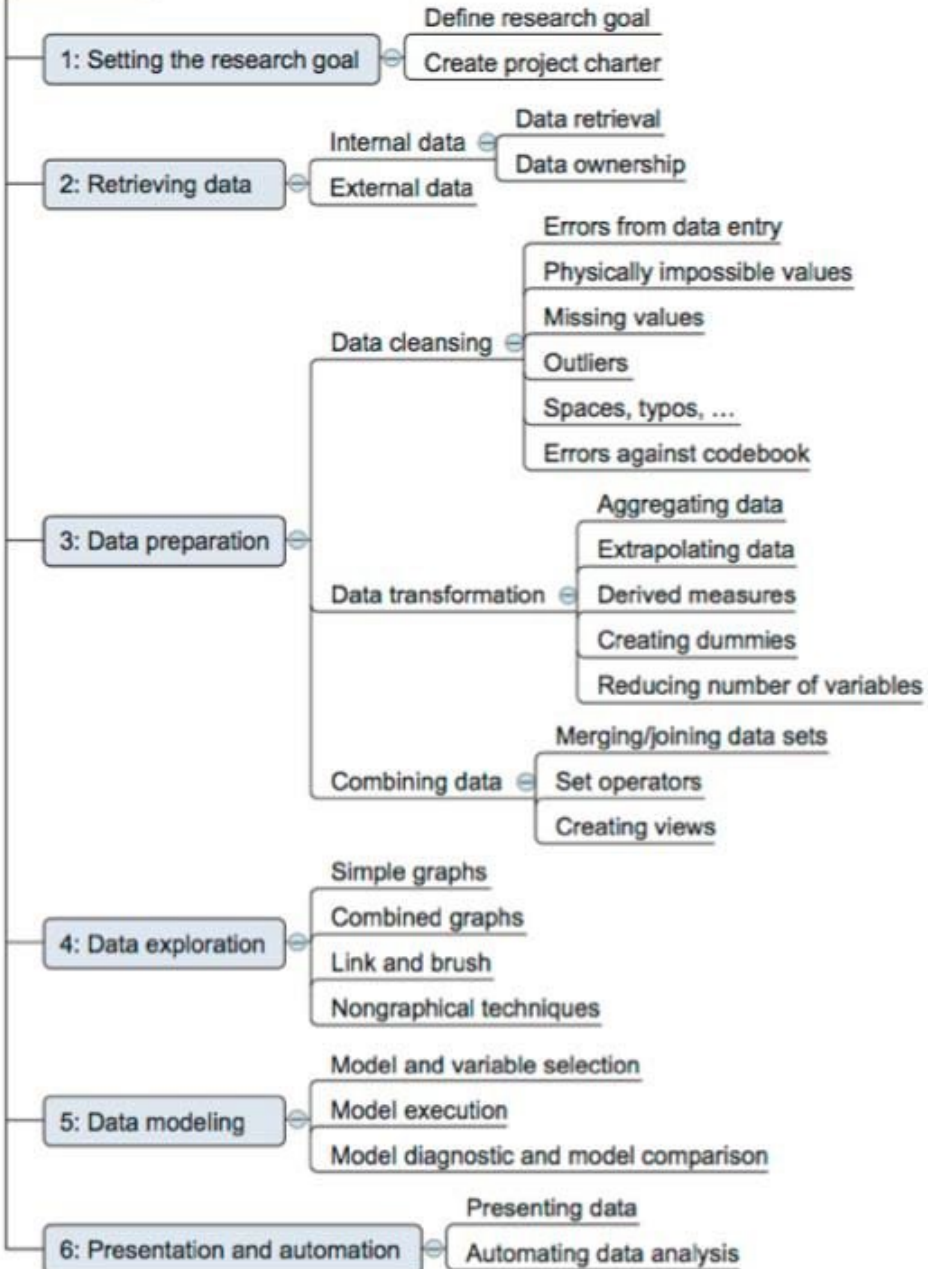
Data Analytics

Discovery, interpretation, and
communication of meaningful patterns
in data

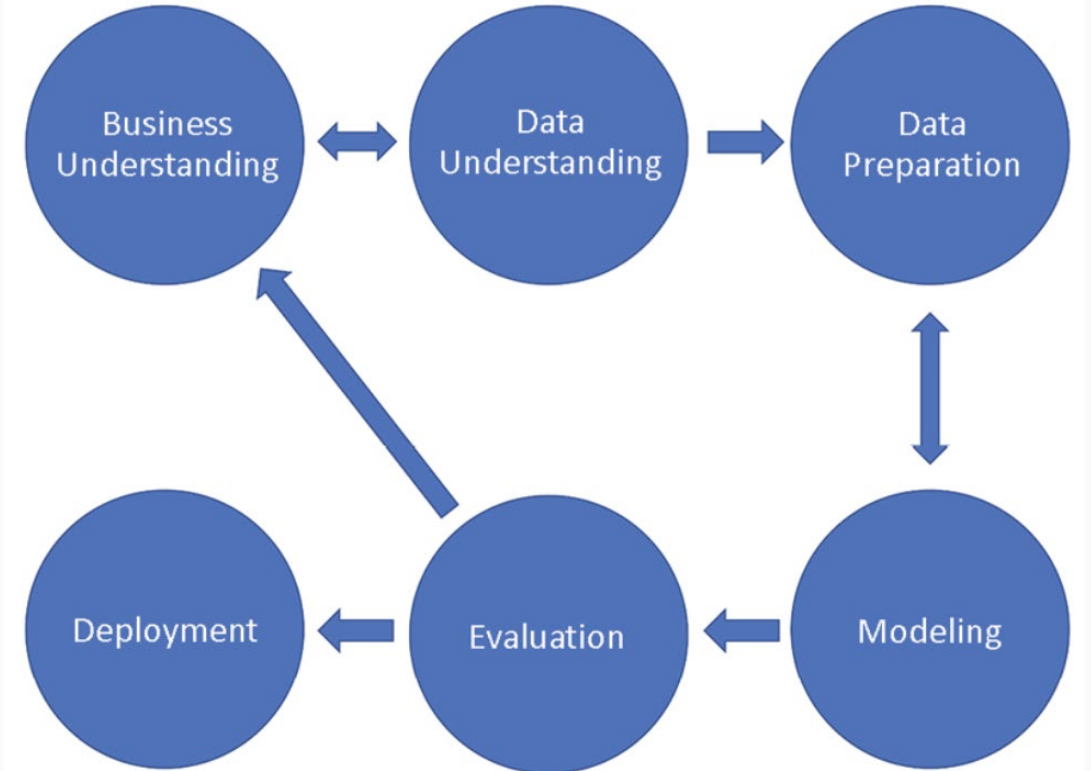
Data Mining

Big Data

Data science process



Veri Bilimi Proje Geliştirme Süreci



5 TYPES OF ANALYTICS

**Cognitive
Inference**



What can be improved or automate?

Combines a number of intelligent technologies like artificial intelligence and deep learning to apply human sense to perform certain task.

**Perspective
Context**



What should be done?

Advice business on possible outcome and what they can do. Provide suggestion to solve business problems.

**Predictive
Insight**



What will happen?

Utilizing statistical and machine learning to provide recommendation and provide data about what might happen in the future.

**Diagnostic
Foresight**



Why did happen?

Explain the cause behind the outcome of descriptive analytics.

**Descriptive
Hindsight**



What happened?

Gives only information about everything is going well or not in a business without explaining the causes.

Veri Analitiği Tipleri

Seviyeler & Cevaplanan Sorular

THE DATA SCIENCE HIERARCHY OF NEEDS

LEARN/OPTIMIZE

AGGREGATE/LABEL

EXPLORE/TRANSFORM

MOVE/STORE

COLLECT

AI,
DEEP
LEARNING

Python, R, MATLAB,...

Research/Data Scientist

Machine Learning Engineer

A/B TESTING,
EXPERIMENTATION,
SIMPLE ML ALGORITHMS

SSAS, Oracle Data Mining

ANALYTICS, METRICS,
SEGMENTS, AGGREGATES,
FEATURES, TRAINING DATA

Power BI, Tableau,
SSIS, SSAS

BI Developer

Data Analyst

CLEANING, ANOMALY DETECTION, PREP

RELIABLE DATA FLOW, INFRASTRUCTURE,
PIPELINES, ETL, STRUCTURED AND
UNSTRUCTURED DATA STORAGE

SQL Server,
SSIS

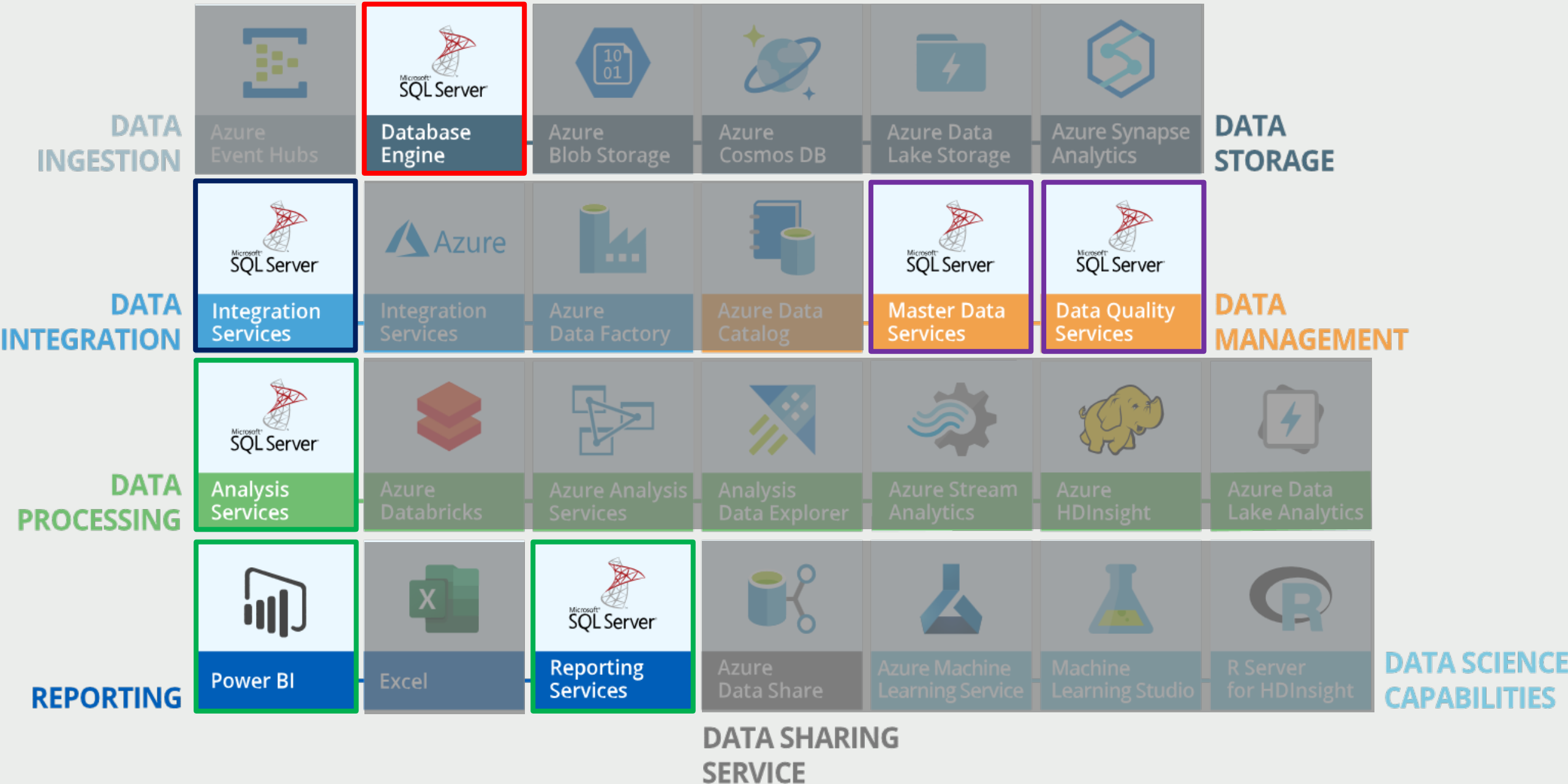
Data

Engineer

INSTRUMENTATION, LOGGING, SENSORS,
EXTERNAL DATA, USER GENERATED CONTENT

@mrogati

MICROSOFT BUSINESS INTELLIGENCE



TEŞEKKÜRLER



Dr. Tuğrul TAŞCI
ttasci@sakarya.edu.tr