Microsoft Azure Cognitive Services: The Big Picture

SOLVING PROBLEMS WITH AZURE COGNITIVE SERVICES

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Introduction

Explaining hyped-up terms

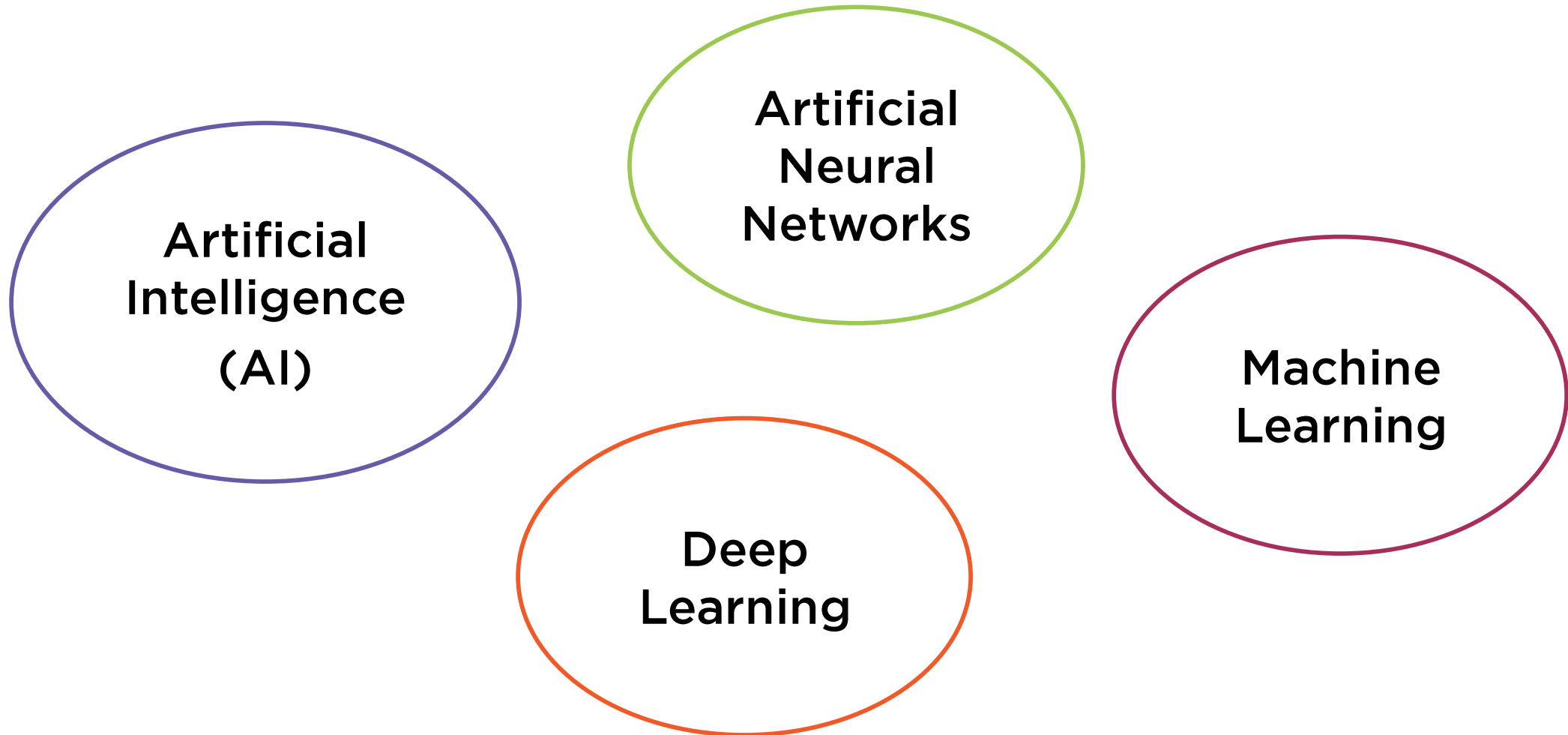**What Machine Learning is**

Azure Cognitive Services
- What they are
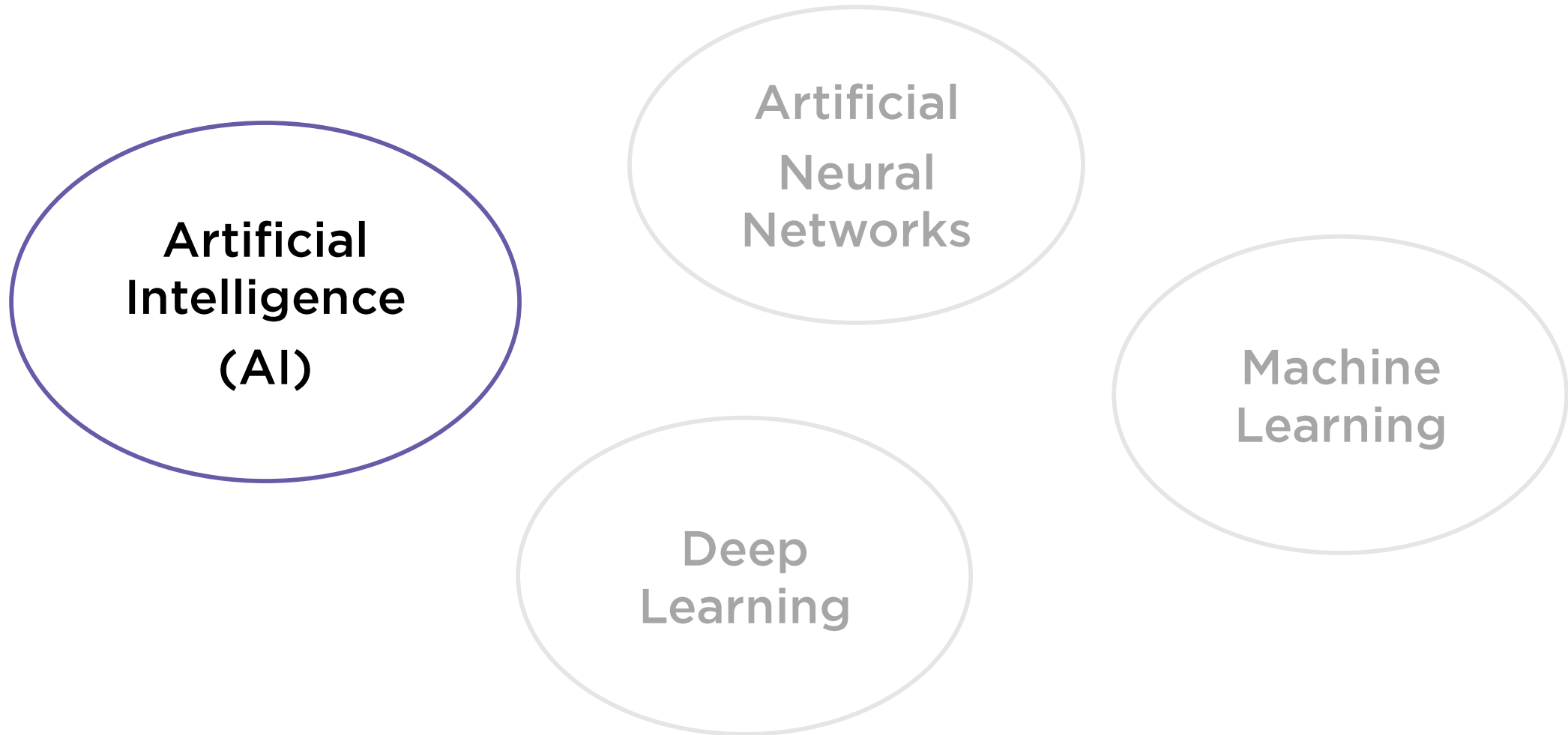- What problems they can solve for you

The Difference Between AI, ML, DL, and ANN

The Buzzwords

Artificial Intelligence (AI)

Artificial Neural Networks

Machine Learning

Deep Learning

The Buzzwords

Artificial Neural Networks

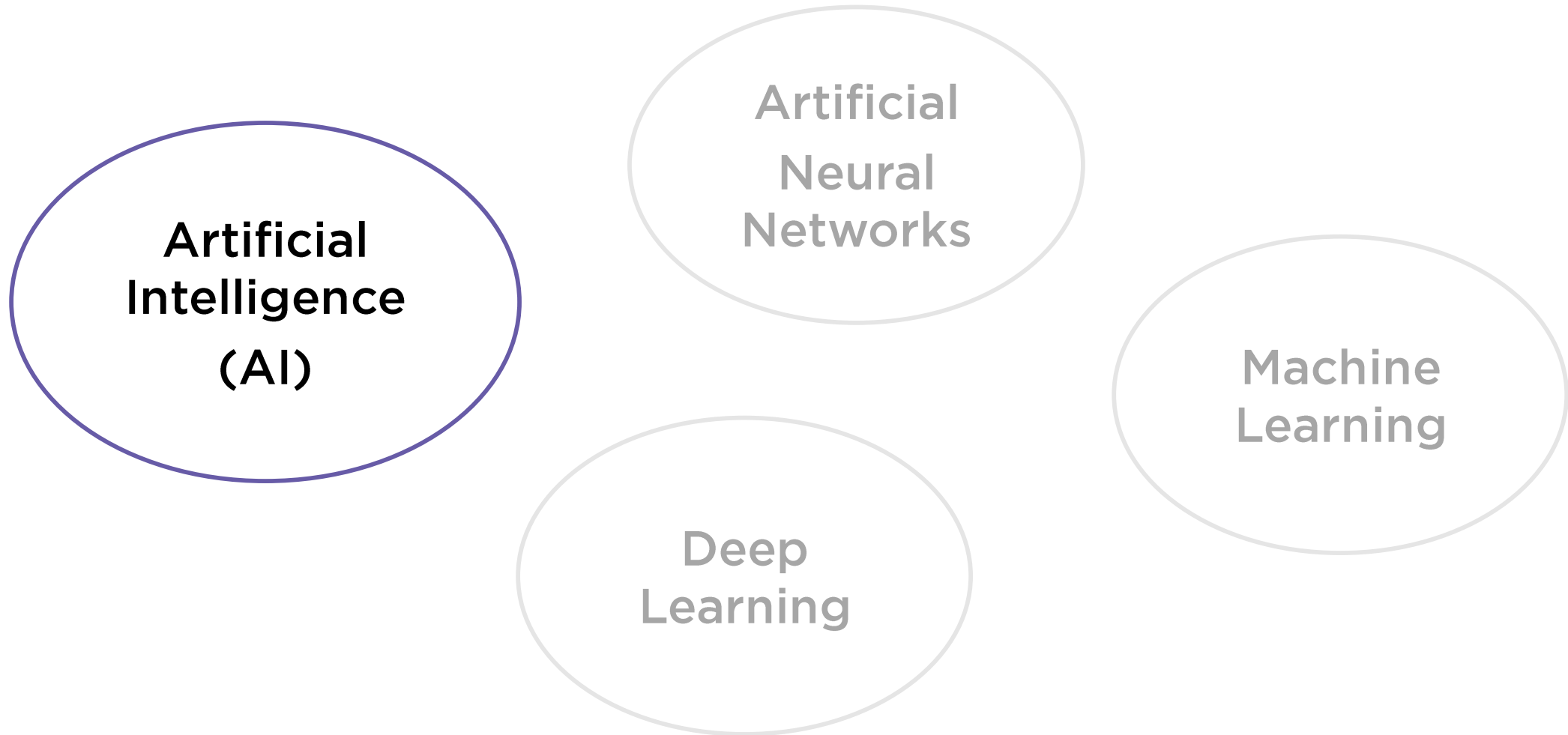Artificial Intelligence (AI)

Machine Learning

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"AI involves machines that can perform tasks that are characteristic of human intelligence"

John McCarthy, 1956

The Buzzwords

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Artificial Neural Networks

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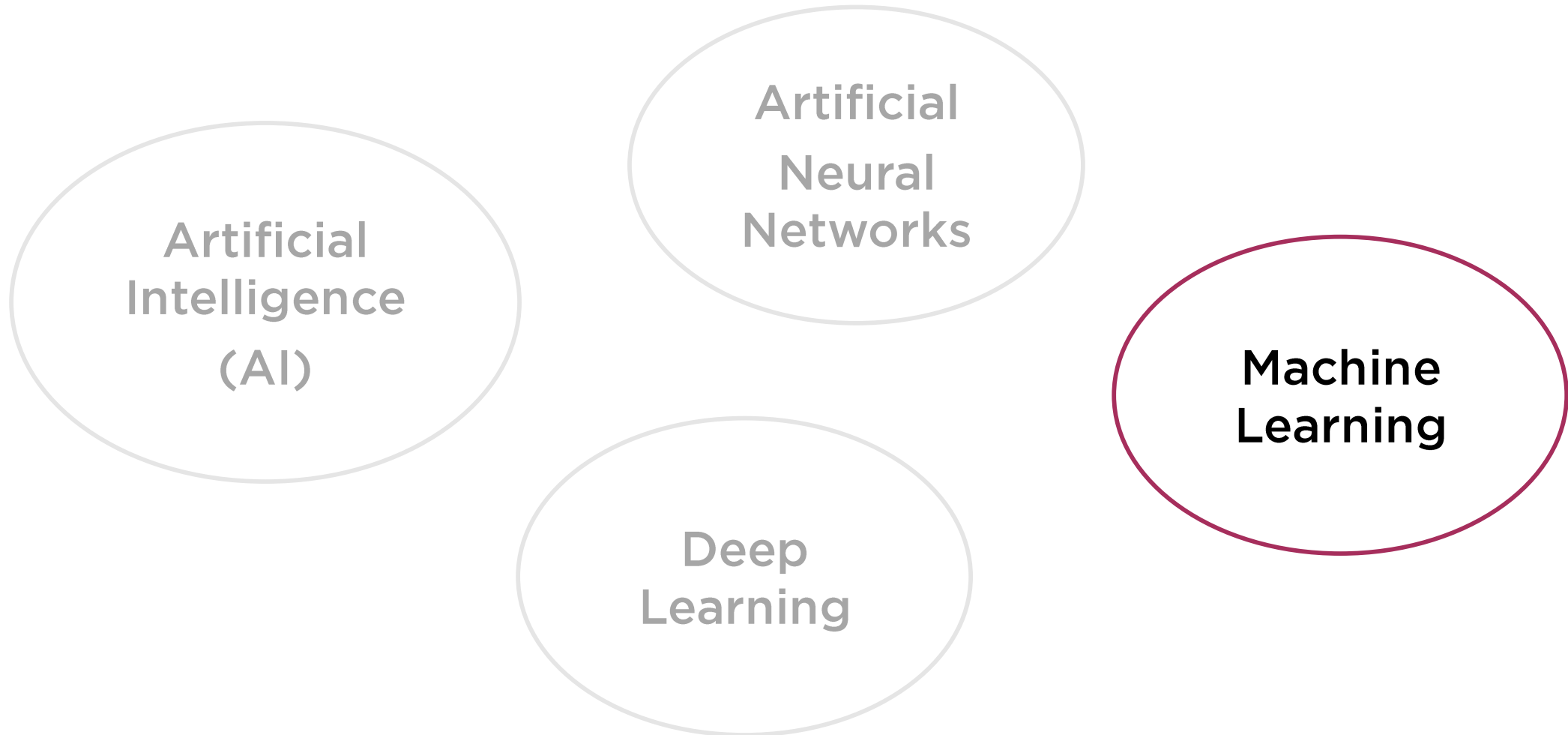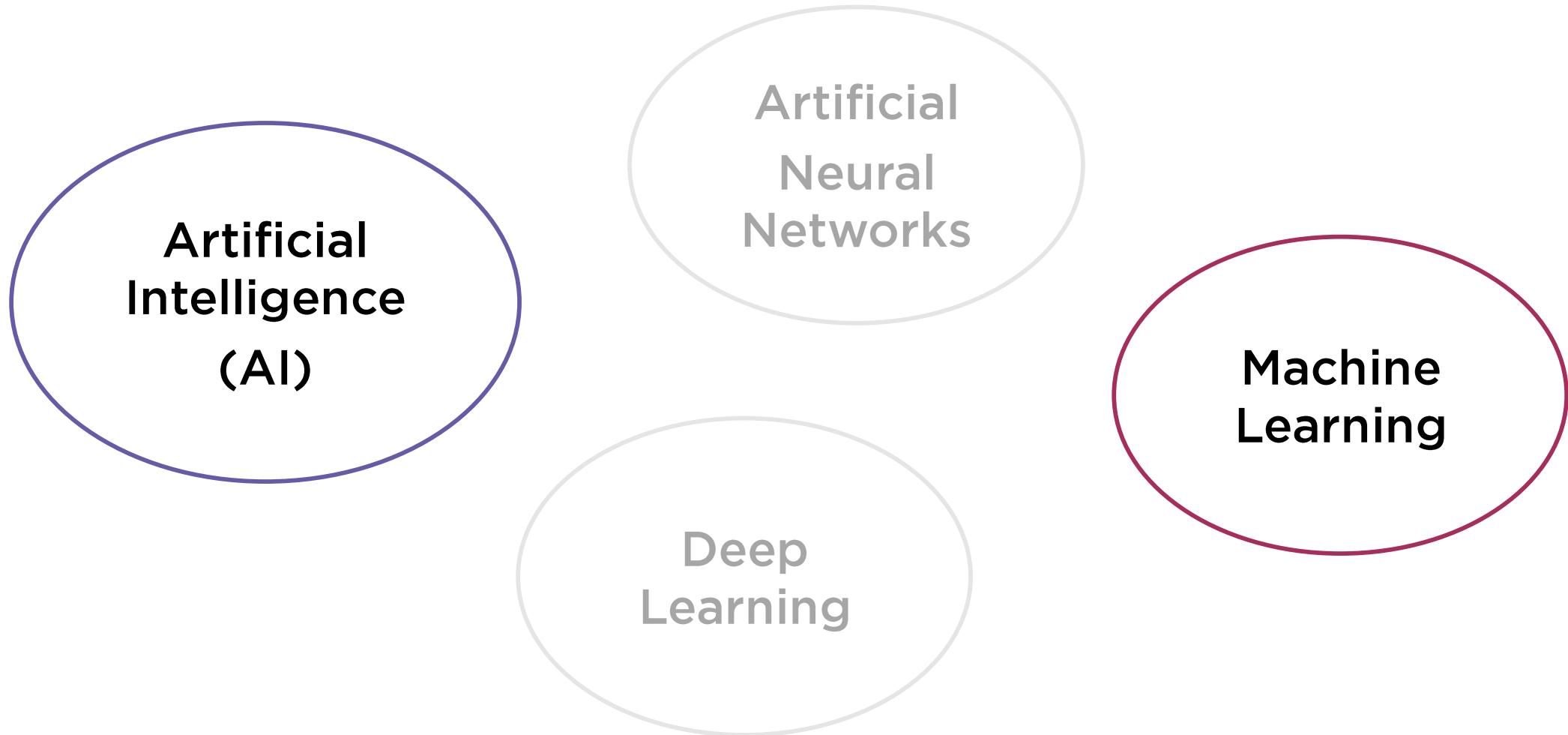
"Machine learning is a field of computer science that gives computers the ability to learn without being explicitly programmed"

Arthur Samuel, 1959

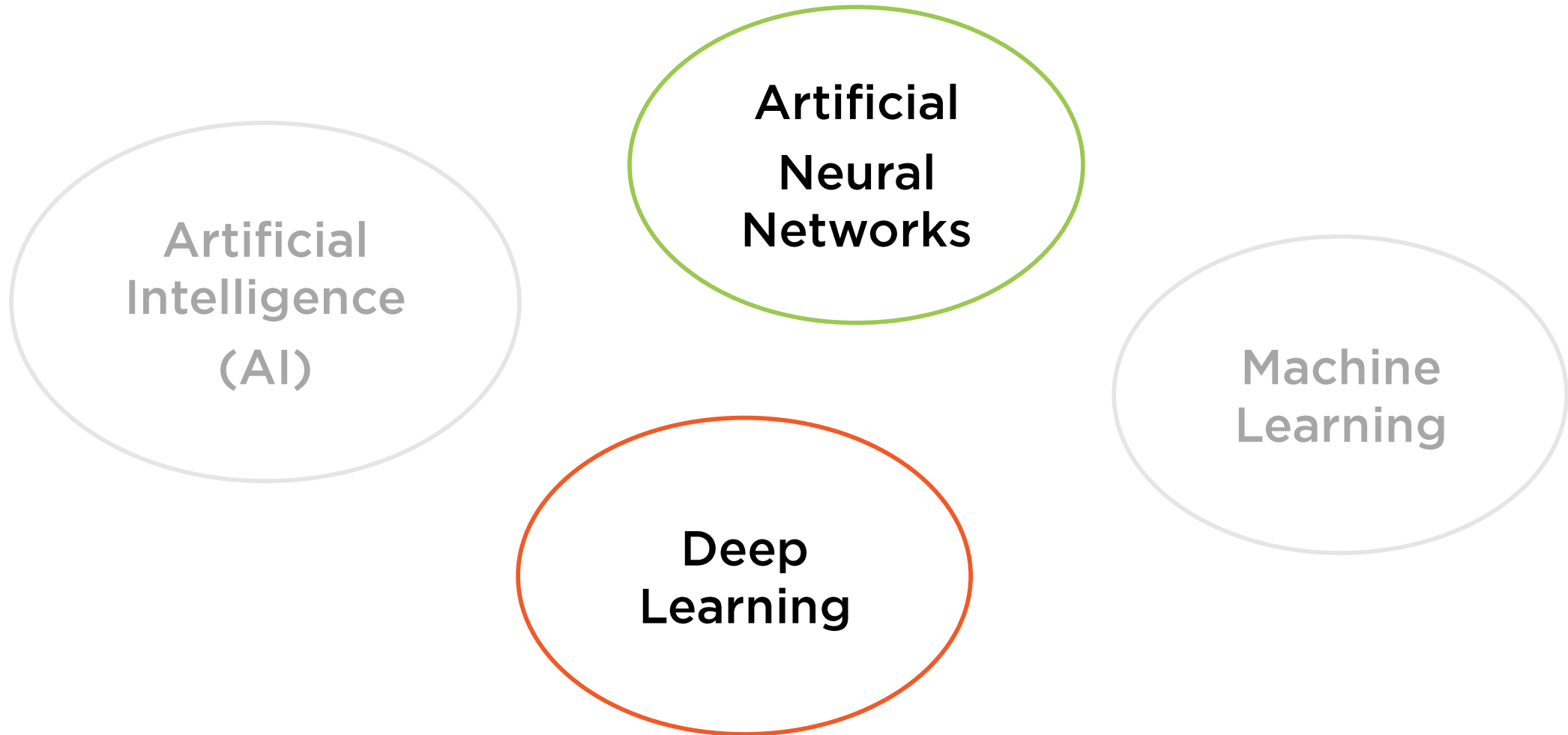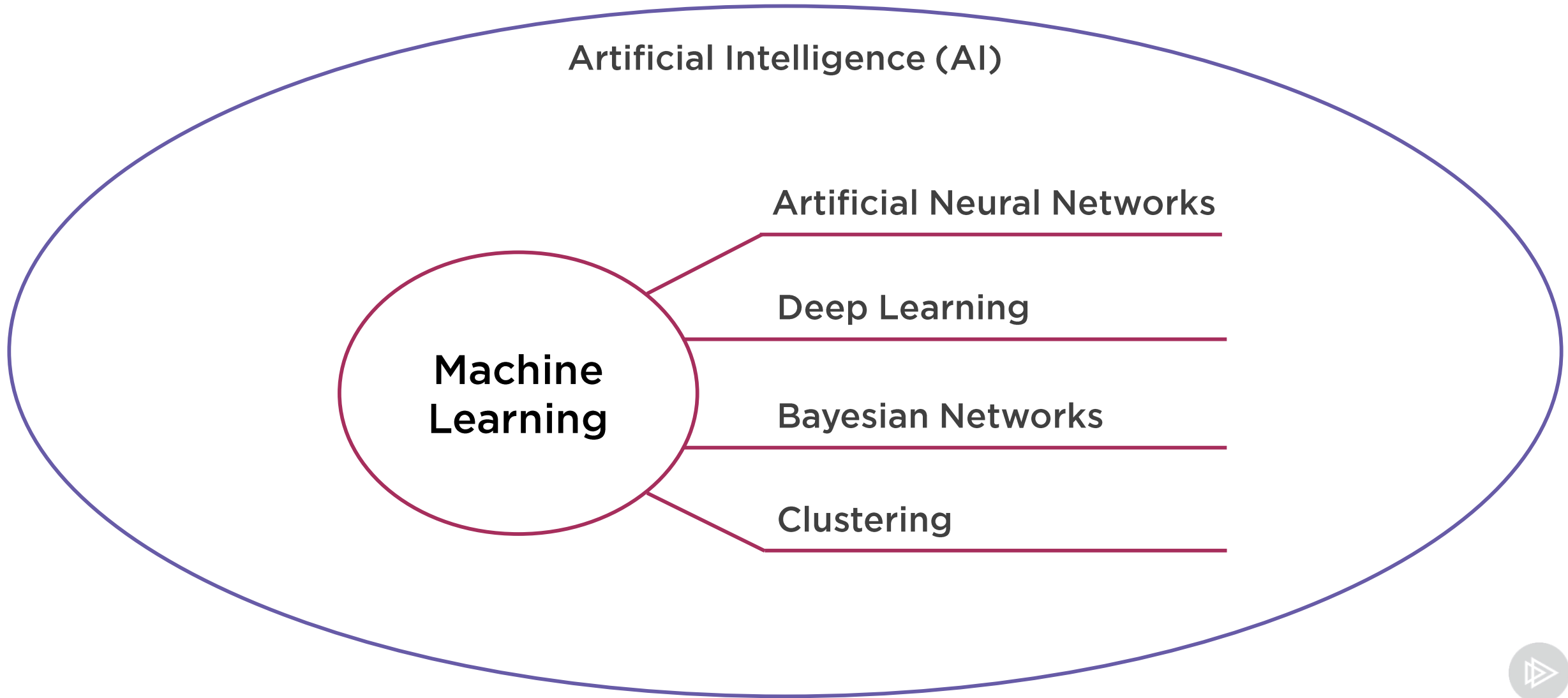# The Buzzwords

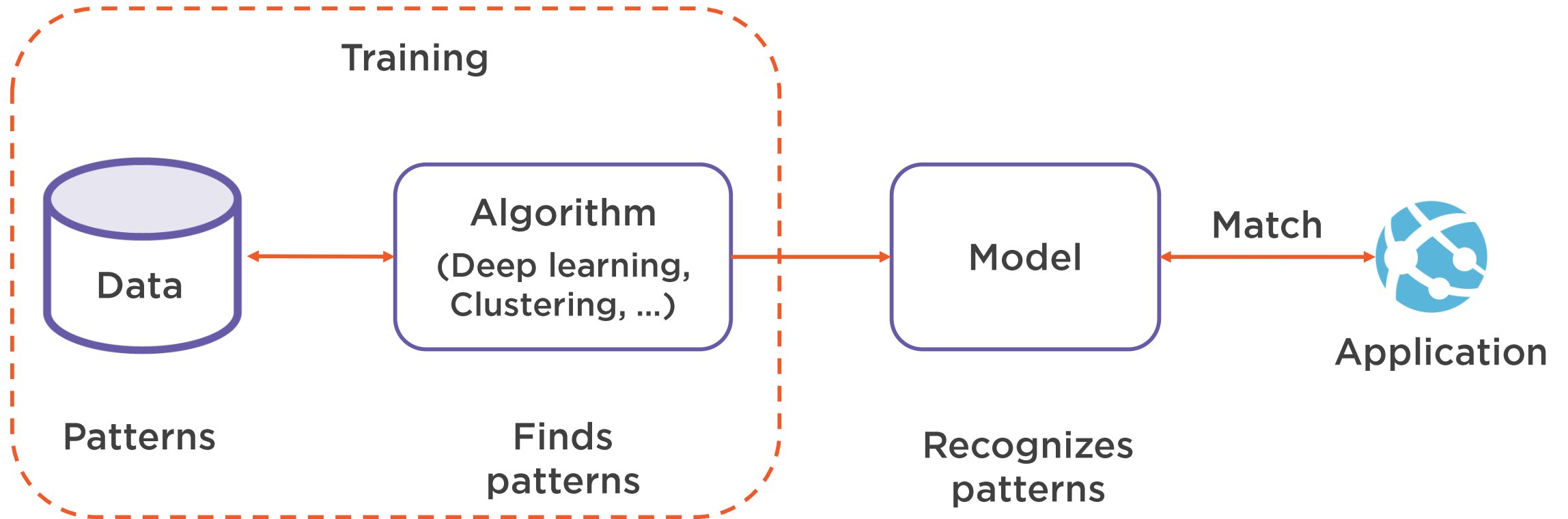Artificial Neural Networks

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The Buzzwords

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How It All Fits Together

Artificial Intelligence (AI)

Machine Learning

Artificial Neural Networks

Deep Learning

Bayesian Networks

Clustering

How Machine Learning Works

The Overview of Machine Learning

The Hard Parts of Machine Learning

Prepare representative data

Create and test algorithm

Expose the model to applications

Data → Algorithm (Deep learning, Clustering, ...) → Model → Match → Application

Patterns

Finds patterns

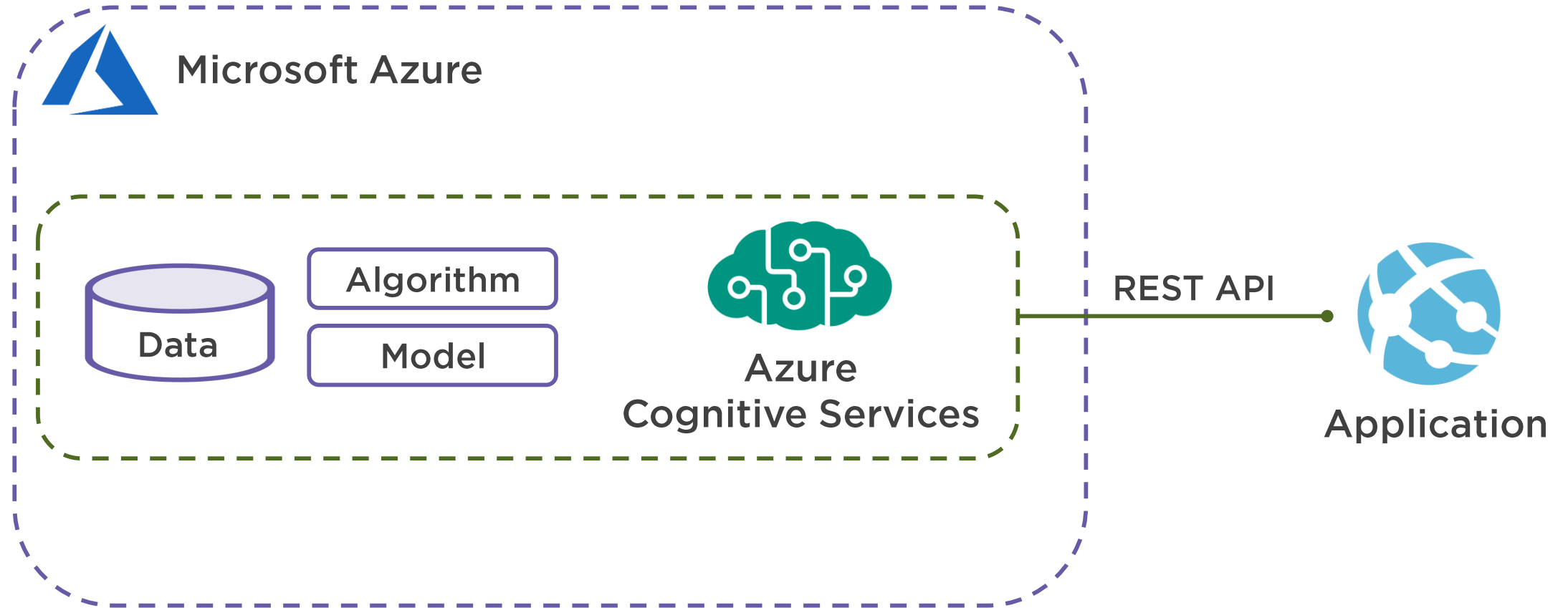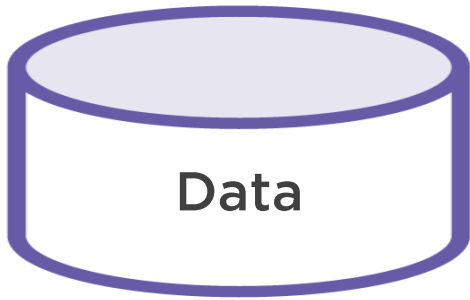Recognizes patterns
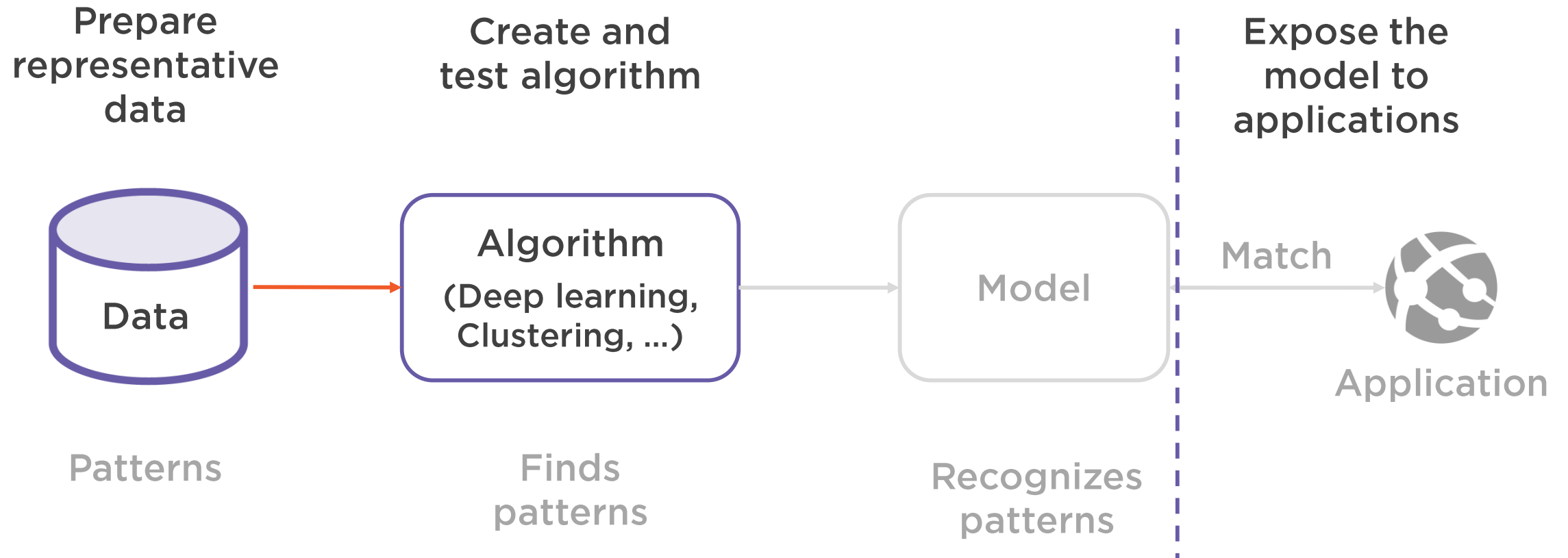
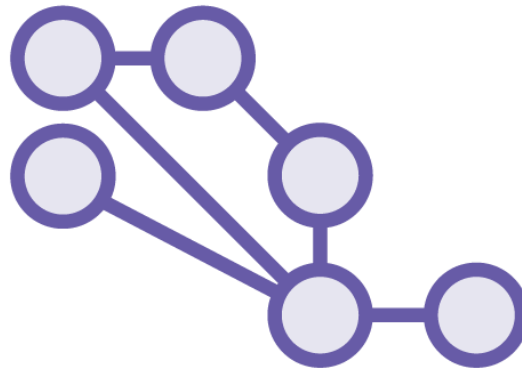# Leveraging Cognitive Services to Use Machine Learning

Cognitive Services Make Things Easy

Advantages of Using Cognitive Services

Data

Data preparation is done by Microsoft
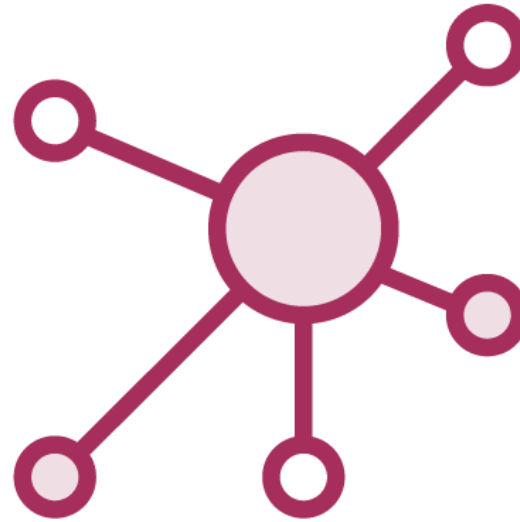
Algorithm-as-a-Service

Easy consumption

Performance

Availability

Security

When Are Cognitive Services Not for You?

Custom data and algorithm

Things to Remember

Artificial Intelligence

- Machine Learning

  - Deep Learning

  - Artificial Neural Networks

  - …

Machine Learning

- Data

  - Contains patterns

- Machine Learning Algorithm

  - Finds patterns

- Model

  - Recognizes patterns

Azure Cognitive Services

- Pattern recognition-as-a-Service