



Is AI right for me?

Amber McKenzie

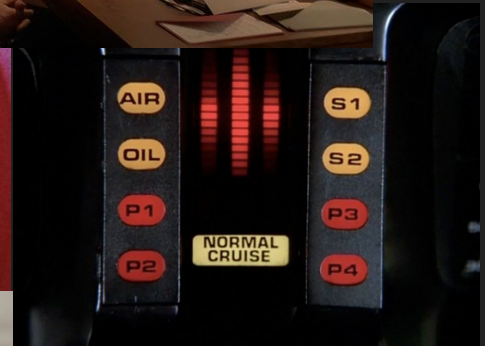
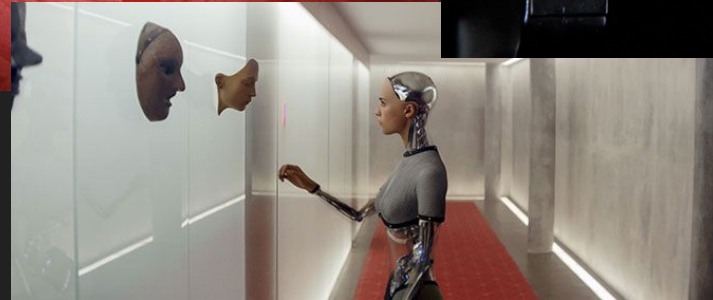
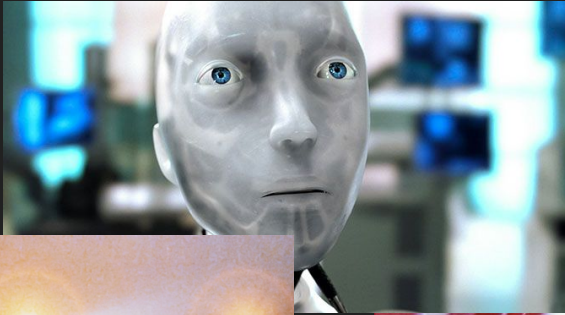
Who am I...



UNIVERSITY OF
SOUTH CAROLINA



Is it all about robots?



What is AI?



“Researchers believe there is a 50% chance of AI outperforming humans in all tasks in 45 years”

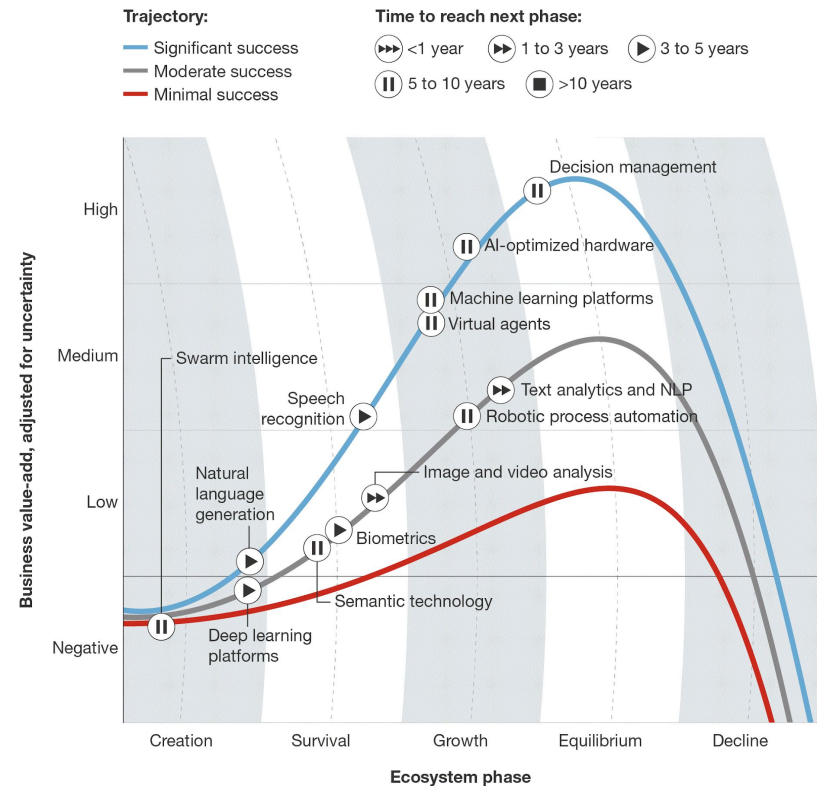




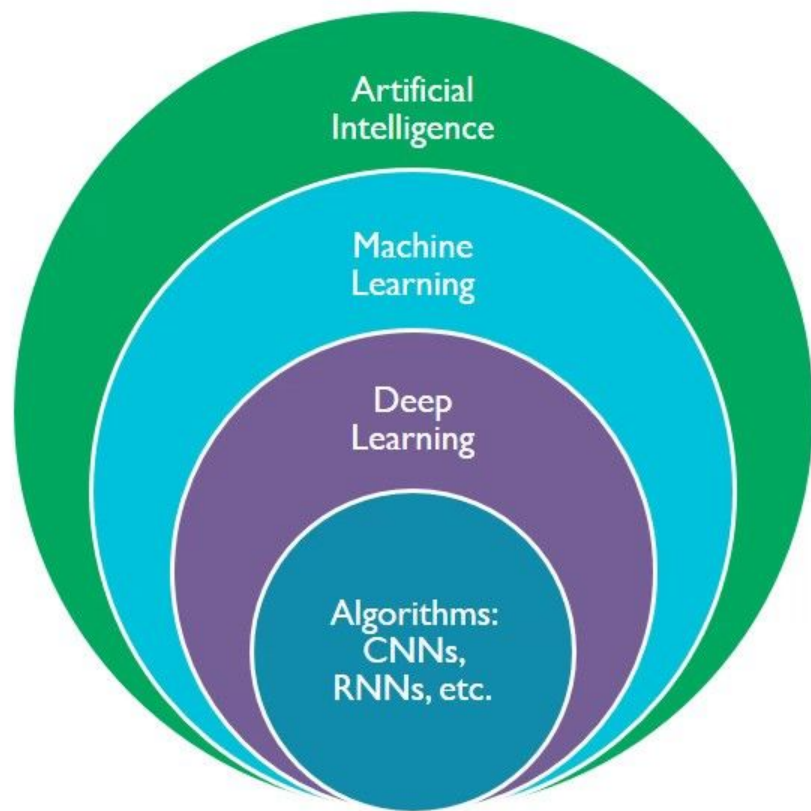
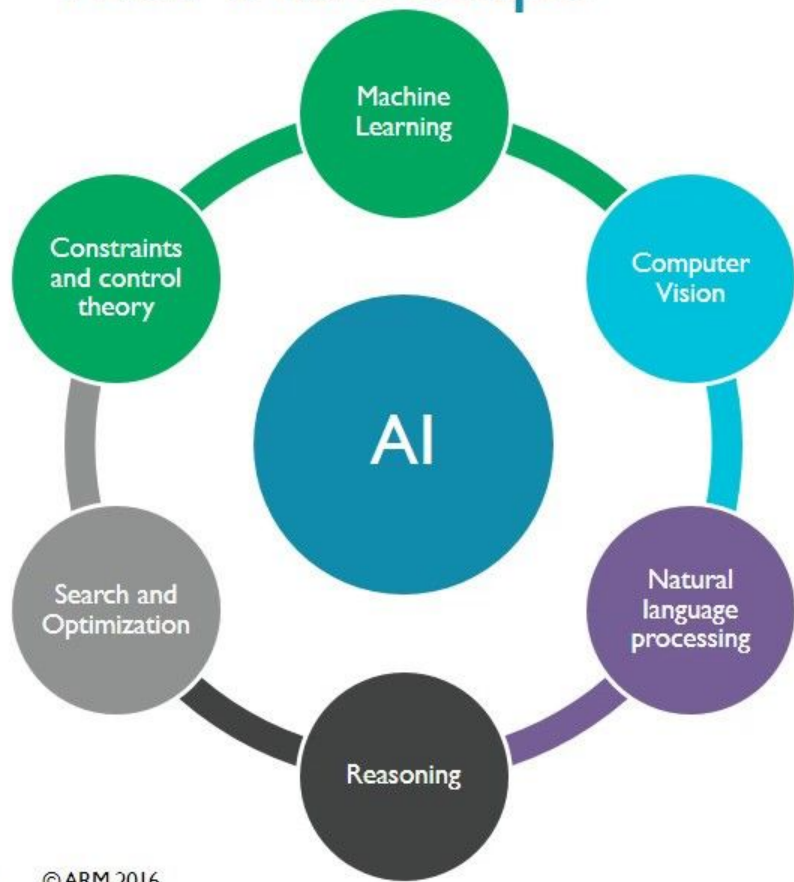
In the meantime ... AI for business



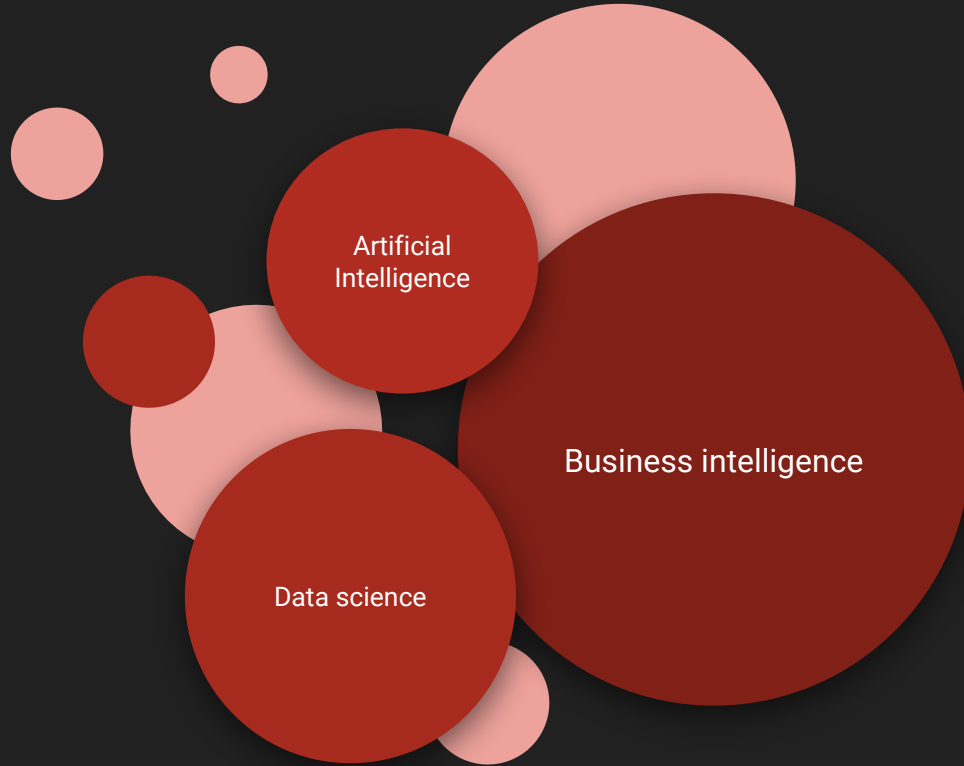
In the meantime ... AI for business



The AI landscape



Levels of technological solutions



Data Science

WHEN

it is applied

WHY

you need it

**BUSINESS
INTELLIGENCE**

*After the data has been
gathered & organized*

use data to
create reports
and dashboards
to gain business
insights

**TRADITIONAL
METHODS**

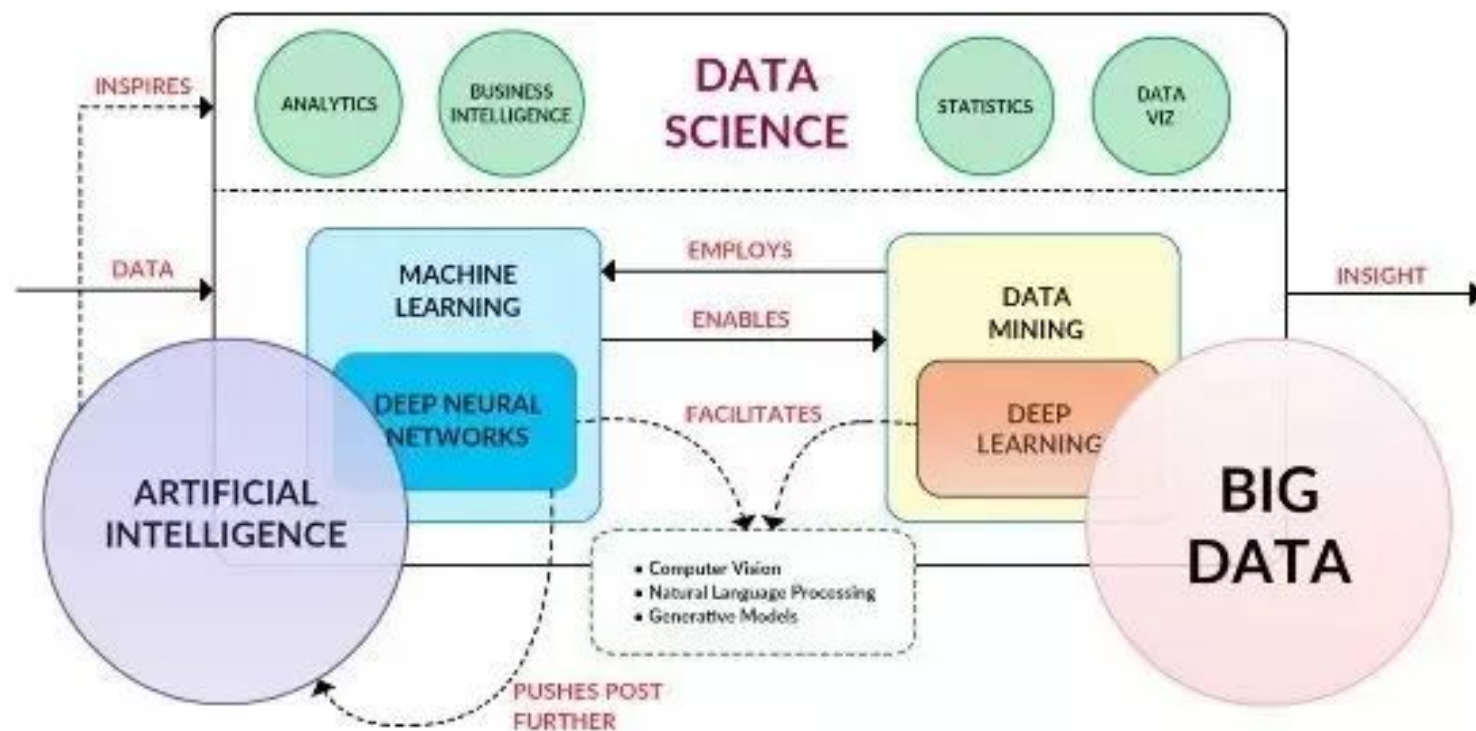
*After BI reports have been
created and discussed*

assess potential
future scenarios
by using advanced
statistical methods

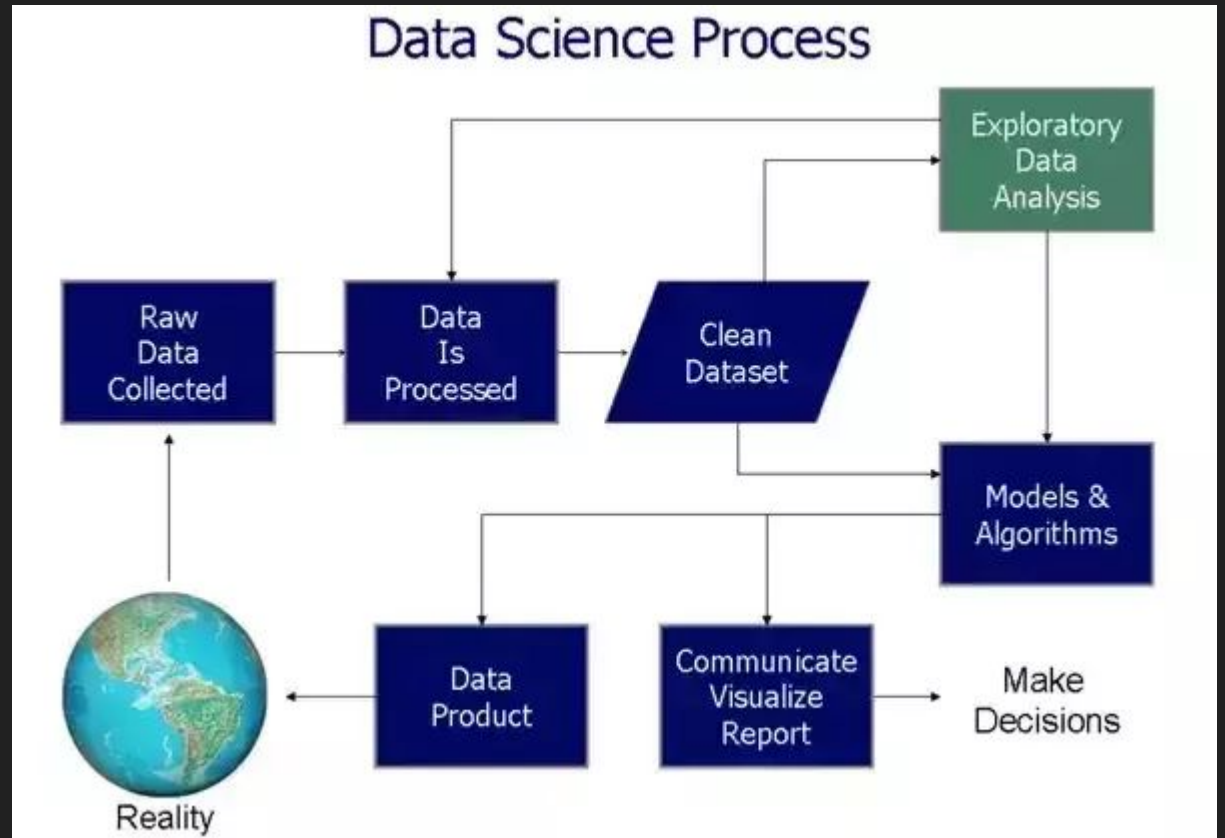
**MACHINE
LEARNING**

Predictive Analytics

utilize artificial
intelligence to
predict behavior in
unprecedented ways



The expected



The reality

1. Define problem
2. Establish type and level of solution needed
3. Exploratory data analysis and data engineering
4. Develop experimental plan
5. Train and test models
6. Report results
7. Reiterate from #4

Define

Define the
business
problem

Design

Establish type
and level of
technical
solution needed

Analyze

Exploratory data
analysis and data
engineering

Develop an
experimental plan



Report results

Train and test
models

AI/Data Science Process

1. **Define problem**
2. **Establish type and level of solution needed**
3. Exploratory data analysis and data engineering
4. Develop experimental plan
5. Train and test models
6. Report results
7. Reiterate from #4



Start with the problem



- Business owners and users
- Current manual process
- Inputs and outputs for overall business problem
- Critical, self-contained parts
- Success criteria

Start with the problem



The Simplest Impossible Problem

- **Business owners and users**
- Current manual process
- Inputs and outputs for overall business problem
- Critical, self-contained parts
- Success criteria

Start with the problem



- Business owners and users
- **Current manual process**
- Inputs and outputs for overall business problem
- Critical, self-contained parts
- Success criteria

Questions to ask yourself

1

Subjectivity

Would everyone agree on the same answer?

Is there a clear answer or does it require a judgment?

2

Reusability

Is it a task that is done often?

Would it save someone time in their frequent work?

3

Error tolerance

What happens if the answer is wrong?

How many wrong answers are tolerable?

Start with the problem



- Current manual process
- Business owners and users
- **Inputs and outputs for overall business problem**
- Critical, self-contained parts
- Success criteria

Start with the problem



- Current manual process
- Business owners and users
- Inputs and outputs for overall business problem
- **Critical, self-contained parts**
- Success criteria

Start with the problem



The Simplest Impossible Problem

- Current manual process
- Business owners and users
- Inputs and outputs for overall business problem
- Critical, self-contained parts
- **Success criteria**

Look at the data

What kind of data do you have?

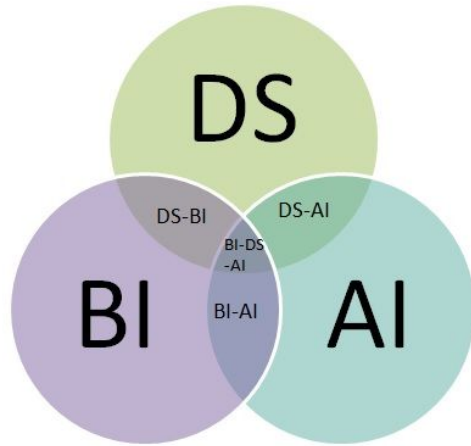
What is it used for?




Do you have a way of telling the computer what is right?

What is the sensitivity level of the data?



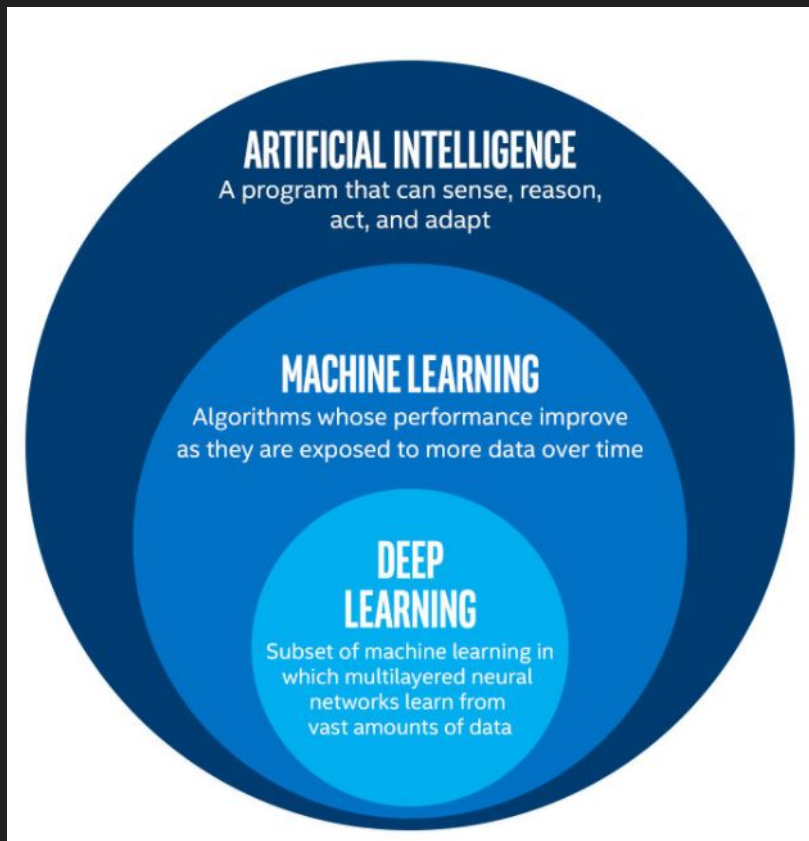
Level of technology solutions



-  Data Science(DS)
-  Business Intelligence(BI)
-  Artificial Intelligence(AI)

Methods	Discipline
Unsupervised Machine Learning	AI
Reinforcement Learning	AI
Reporting Support	BI
Multidimensional Analysis	BI
Natural Language	BI-AI
Data Management	BI-DS-AI
Big data Management	BI-DS-AI
Predictive Modelling	DS
Descriptive Statistics	DS -BI
Data Visualization	DS -BI
Data Discovery	DS -BI

Where does machine learning fit in?



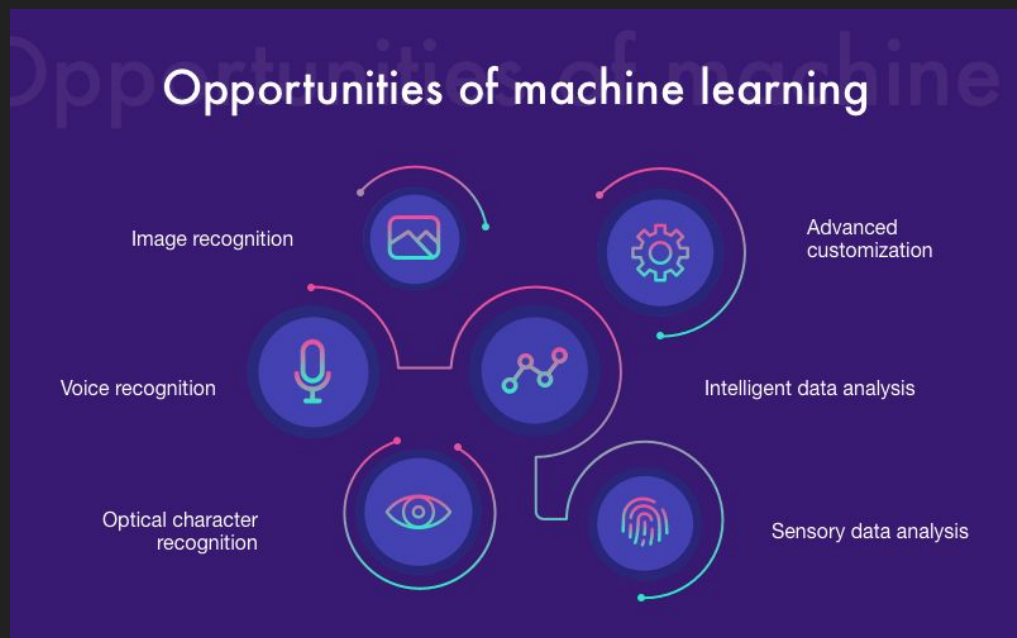
Level of technology solutions

- **Business intelligence**
 - Aggregation
 - Summation
 - Ad hoc reporting
- Machine learning/data science
 - Predictive
 - Time-series
 - Classification
 - Anomaly detection
- Artificial intelligence
 - Generative
 - Deep learning
 - Computer learning
 - Multi-agent systems



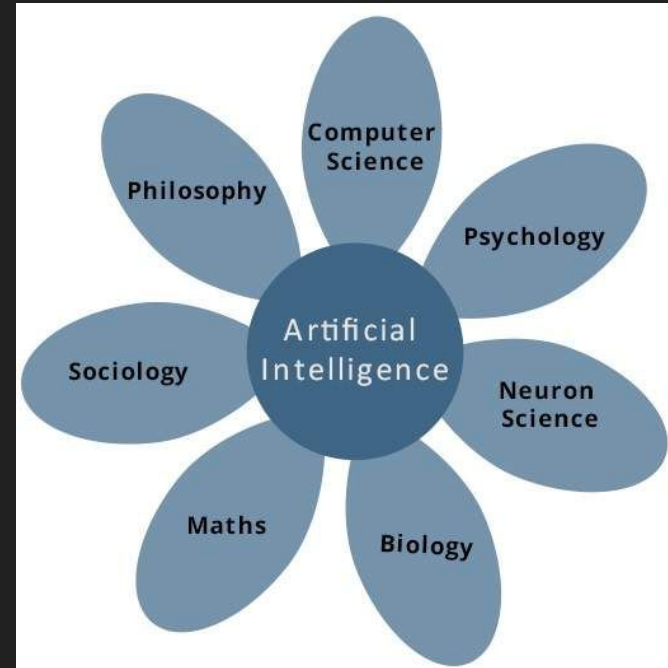
Level of technology solutions

- Business intelligence
 - Aggregation
 - Summation
 - Ad hoc reporting
- **Machine learning/data science**
 - **Predictive**
 - **Time-series**
 - **Classification**
 - **Anomaly detection**
- Artificial intelligence
 - Generative
 - Deep learning
 - Computer learning
 - Multi-agent systems

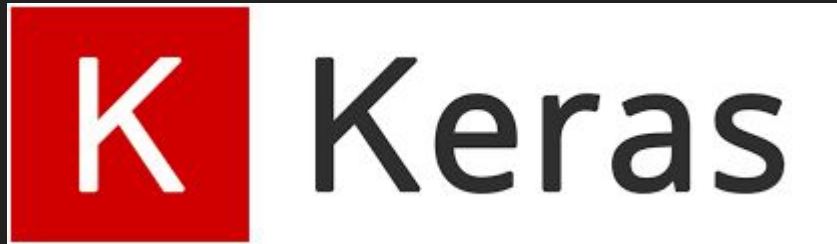


Level of technology solutions

- Business intelligence
 - Aggregation
 - Summation
 - Ad hoc reporting
- Machine learning/data science
 - Predictive
 - Time-series
 - Classification
 - Anomaly detection
- **Artificial intelligence**
 - **Generative**
 - **Deep learning**
 - **Computer learning**
 - **Multi-agent systems**



Level of effort

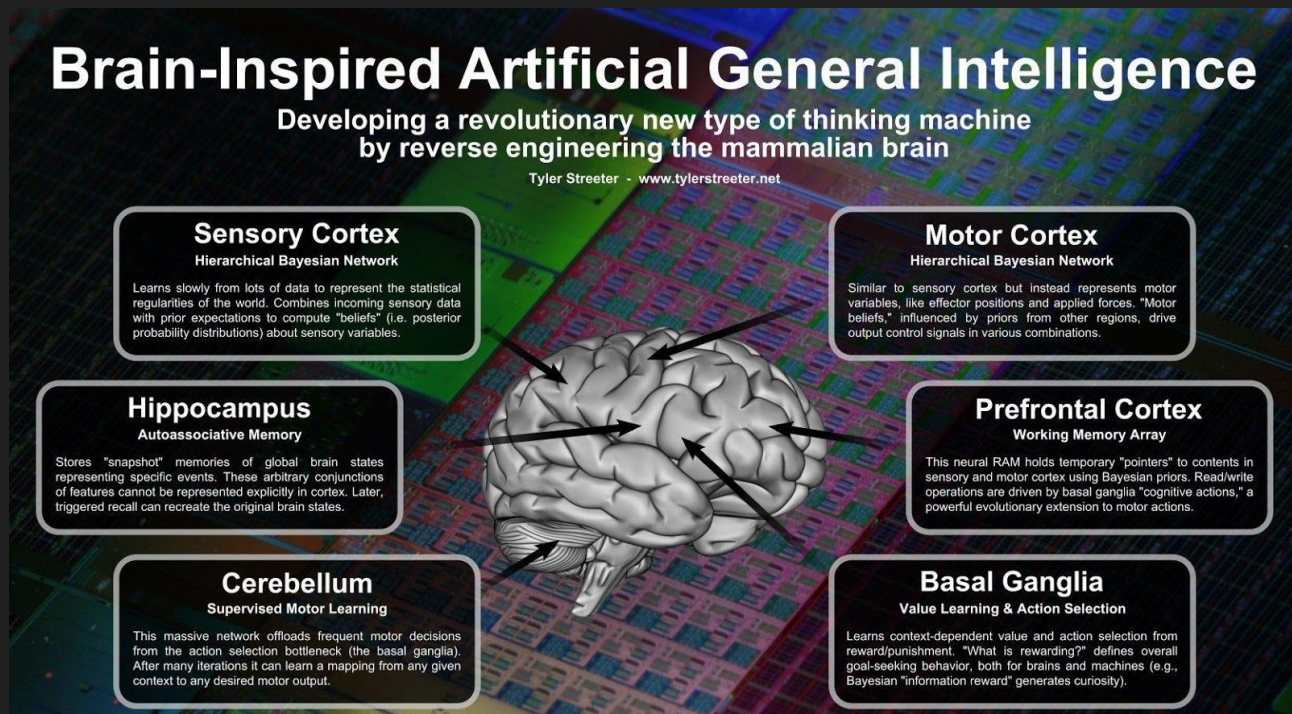


What does the future of the problem look like?

Incorporating new information

Providing feedback

Analyzing output to
evaluate model



Contact information

Amber McKenzie, Ph.D.
Manager of Emerging
Technologies

PwC
Knoxville, TN

mckenzie.amber@gmail.com
amber.t.mckenzie@pwc.com
<https://nlprunner.wordpress.com>

