

Career in Data Science and Machine Learning

Career in Data Science and Machine Learning

Agenda

- About CloudxLab
- About Speakers
- What is ML?
- What is AI?
- Why AI/ML?
- What is Data Science
- Diff in ML Approach
- Careers Paths and Job Stats
- About the course
- FAQs

Instructions / Notes

- 2 Hours session with 10 minutes Break
- Except Speaker, everyone is on mute
- Please use the Youtube Chat to Ask Questions
- The recording & slides will be shared after session
- More Info: CloudxLab.com



Sandeep Giri 

Founder at CloudxLab.com |
AI Advisor at [Algoworks](#) |
Speaker - AI, Machine Learning,
Deep Learning, Big Data



About - **CloudxLab**



Vision

Upskill engineers and IT professionals in Deep Tech - Deep Learning, Machine Learning and Big Data technologies, make them employable and future ready

Build Careers, Improve Lives



Building a Career in
Data Science and Machine Learning

CloudxLab - Playground with Feedback

Playground for hands-on.

System evaluates the code automatically and nudges the user by giving appropriate feedback

Content

Python - String Concatenation

In Python we can use several string operations like concatenations. Two strings can be simply concatenated using the "+" operator. For eg. to concatenate the strings "football" and "basketball" and assign it to a new variable games run `games = "football" + "basketball"`

INSTRUCTIONS

Assign a value of "Cloudx" to a variable called `first` and a value of "Lab" to a variable called `second`.
Using String Operations concatenate the values of the variable `first` and `second` and store the result in variable called `final`.

Submit Answer

✓ Good work! You have learned about string operations in Python.

Playground

Lab username: abhinav9884  Lab password: *****  

Notebook Console Files Notes

Services

File Edit View Insert Cell Kernel Navigate Widgets

Help

```
In [1]: first = "Cloudx"
second = "Lab"
final = first + second
final
```

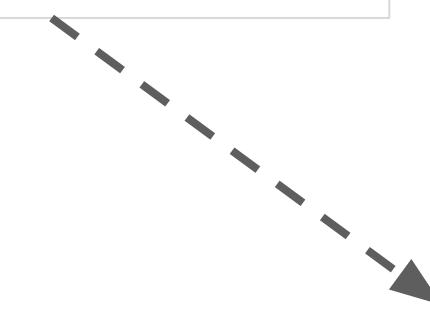
```
Out[1]: 'CloudxLab'
```

```
In [ ]:
```

```
In [ ]:
```

```
In [ ]:
```

Feedback





CloudxLab - Online Cloud Based Lab

Cloud-based Lab with pre-installed tools and software for practicing **AI**, **Machine Learning**, **Deep Learning**, **Data Science**, **Big Data** and related technologies

```
[abhinav9884@cxln4 ~]$ python
Python 2.7.5 (default, Apr  9 2019, 14:30:50)
[GCC 4.8.5 20150623 (Red Hat 4.8.5-36)] on linux2
Type "help", "copyright", "credits" or "license" for more information.
>>> first = "Cloudx"
>>> second = "Lab"
>>> final = first + second
>>> final
'CloudxLab'
>>> 
```

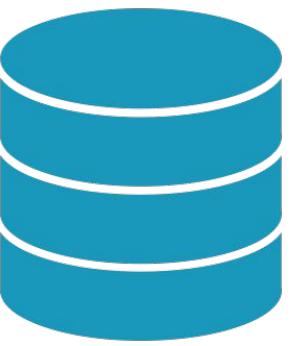


CloudxLab - Online Cloud Based Lab



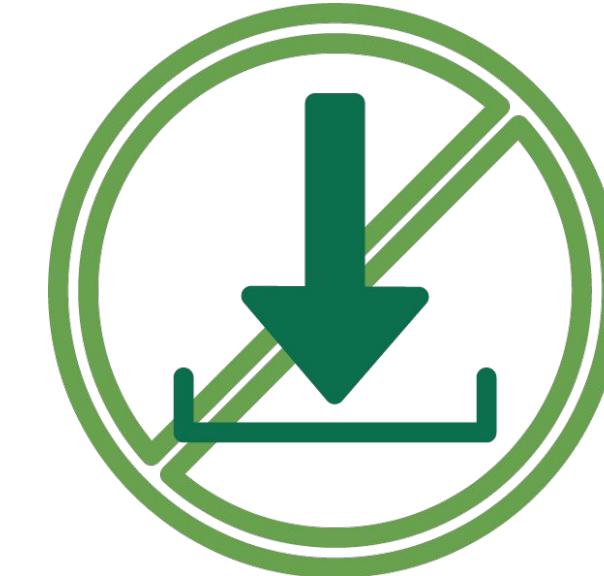
Real-world Experience

Lab setup is exactly same as of setup in Enterprises.
Become job ready from Day 1



Central Dataset

Upload your own dataset
Or use open source datasets available on lab



Seamless Experience

No endless downloading/ installations. No hardware, permissions or configuration issues



Any Device Anywhere

Connect from ANY browser, SSH, device or operating system



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 **CLOUD x LAB**

CloudxLab - Social

We learn better with peers. Social proof and leaderboard increases engagement and motivation

Topic 1 - Python Foundations (32% completed)

Instructor
eict
'IT Roorkee

Electronics and ICT Academy IITR

START ►

8 Concepts | 62 Questions | 7 Assessments | 2,359 Learners

Attempted by

 Subharanjan  Mamta  Rajasekhar  Apoorv and 2,355 more

Learning Items

1 Getting Started - Setting up the environment

User Profile

Home / My Profile

About Abhinav
Seasoned hands-on technical architect and product leader, with years of experience in building large scale products for global audience and India

Location
Bangalore, India

Social Links
  

Member since 3 years, 10 months
50 profile views
4 likes
4 followers
20,620 XP
Last seen 3 days, 22 hours ago

CLOUD X LAB

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all categories Latest Top Categories

Topic	Replies	Views	Activity
How Artificial Intelligence and Machine Learning can be used for your project or work? 	23	1.1k	24d
Unable to access tokenized link while running spark on jupyter 	20	1.1k	Mar '19
Yarn Resource Manager down 	19	201	Oct '19
504 Gateway Time-out 504 Gateway Time-out nginx/1.12.2 	17	496	Oct '19



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CloudxLab - Hiring Partners

Dedicated Job Portal →

Upgrade career, enhance salary & move jobs by applying to jobs posted by our hiring partners

Jobs

Data Scientist
Ank Aha - New Delhi



Posted 4 hours ago

[View Details »](#)

Data Scientist
PLAYSIMPLE - Bangalore



Posted 3 months, 1 week ago

[View Details »](#)

Senior Analyst
PLAYSIMPLE - Bangalore



Posted 3 months, 1 week ago

[View Details »](#)



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Master of Science in Deep Learning and Artificial Intelligence

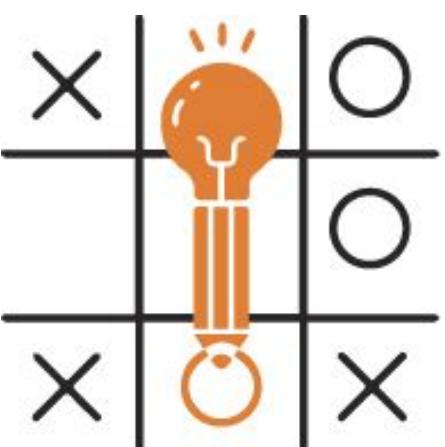
Artificial intelligence has permeated into every sphere of life, bringing smartness and efficiency in all our endeavours.

AI today is seen as the panacea and accelerator for solving many of the nagging human problems.

REVA Academy for Corporate Excellence and CloudxLab proudly present a unique Masters' program loaded with experiential learning in a gamified environment with real-time projects solving life problems with AI.



Globally valid degree with WES recognition and UGC approval



Experiential Learning with Gamified Labs with Auto assessments



Opportunity to work with MNCs specified Real time projects



Alumni Status from REVA University and Reva Academy for Corporate Excellence



Building a Career in
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| What is Data Science?



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What is Data Science?

An interdisciplinary field that uses

- scientific methods,
 - processes,
 - algorithms and
 - systems

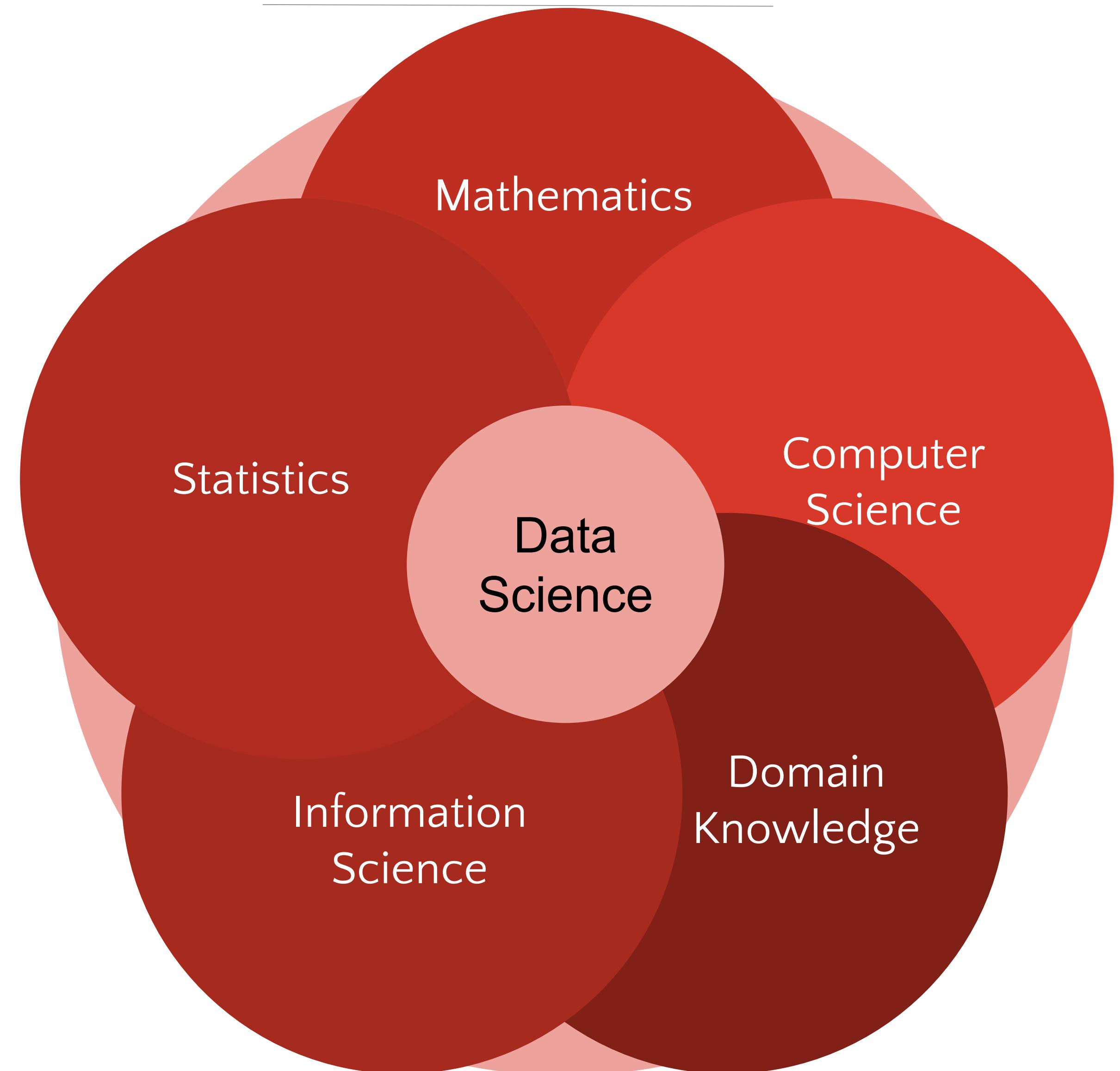
**to extract knowledge and insights from
many structural and unstructured data.**



Pic Credits dimensionless in/



What is **Data Science**?



| What is Machine Learning?



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What is Machine Learning?

“

**Field of study that gives
"computers the ability to learn without
being explicitly programmed"**

-- Arthur Samuel, 1959



What is **Machine Learning**?

Let's understand it with real-world example



Have You Played **Mario**?



How much time did it take you to learn & win the princess?



Have You Played **Mario**?



Can computer also learn the game by itself and play?



How About **Automating** it?



- Program learns to play Mario



How About **Automating** it?



- Program learns to play Mario
- Observes the game & pressed keys
- Maximises Score



How About **Automating** it?



- Program learns to play Mario
- Observes the game & pressed keys



How About **Automating** it?



How About **Automating** it?



So, the program learnt to play

- Mario
- And Other games
- Without any programming

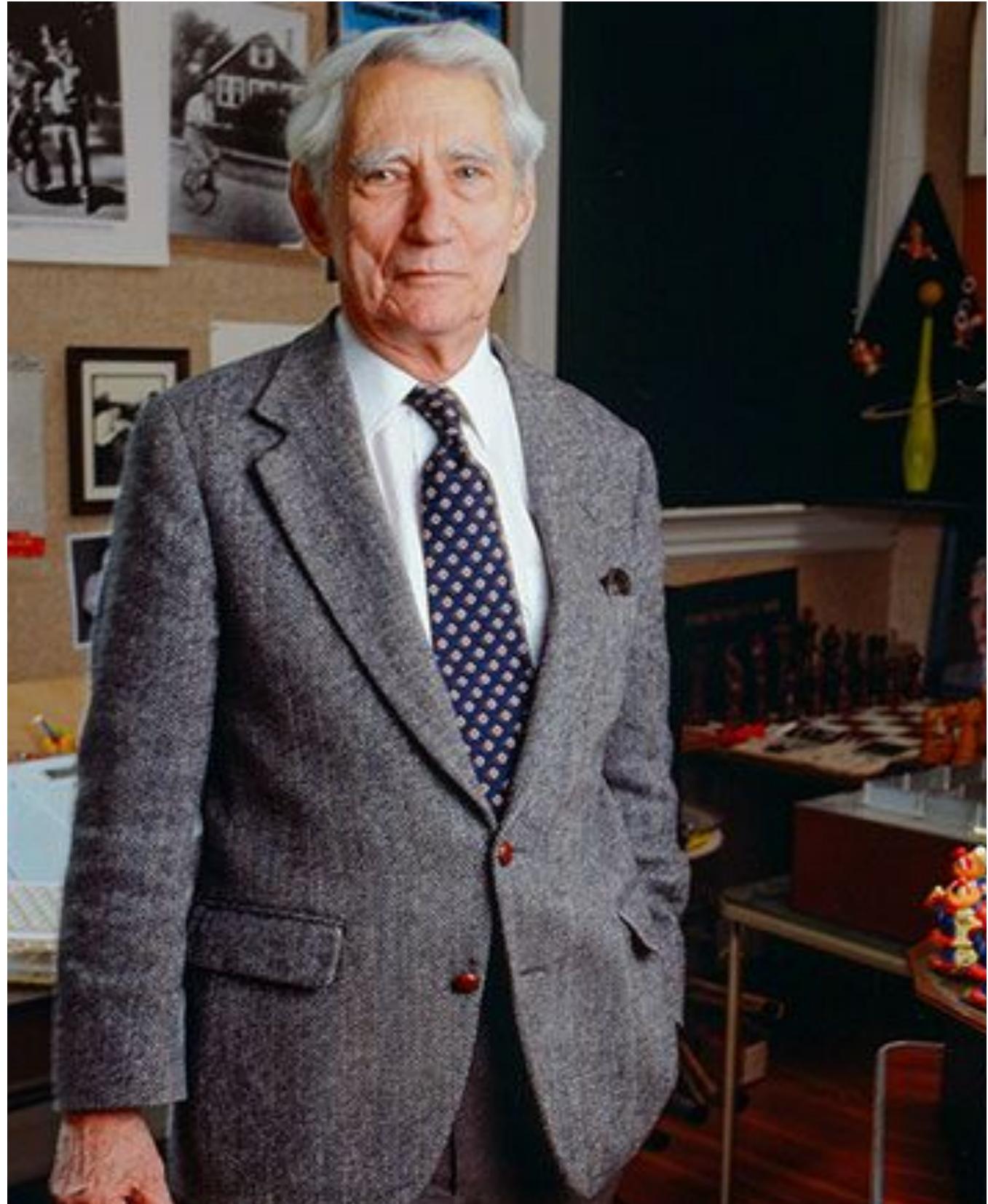


| What is AI?



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What is **AI**?

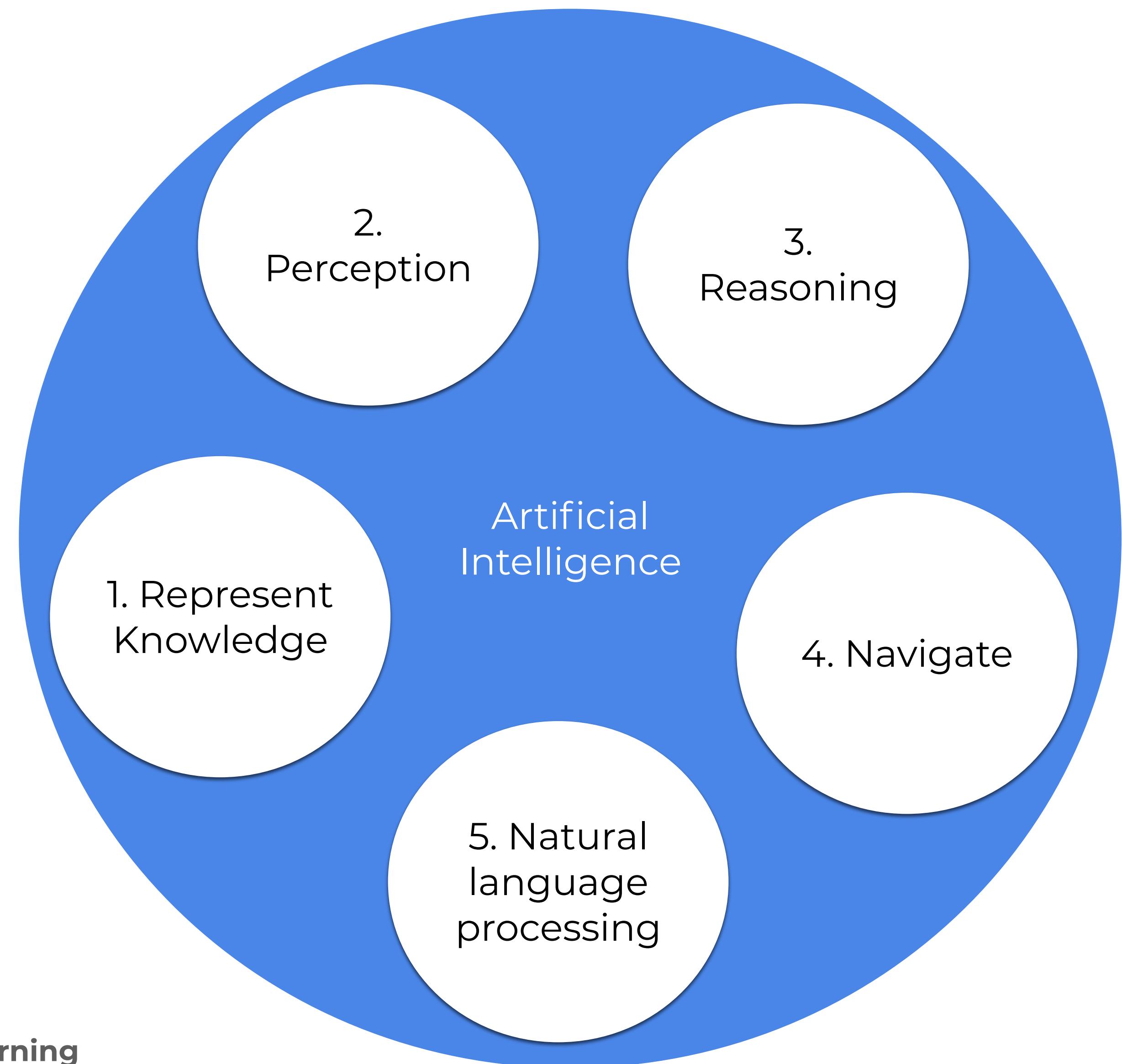


John McCarthy

- The term “Artificial Intelligence” was coined by
 - John McCarthy in 1956 along with his colleagues
 - At Dartmouth College in New Hampshire
- To further elaborate the meaning of AI
 - John McCarthy defined sub-objectives which describe intelligent machines

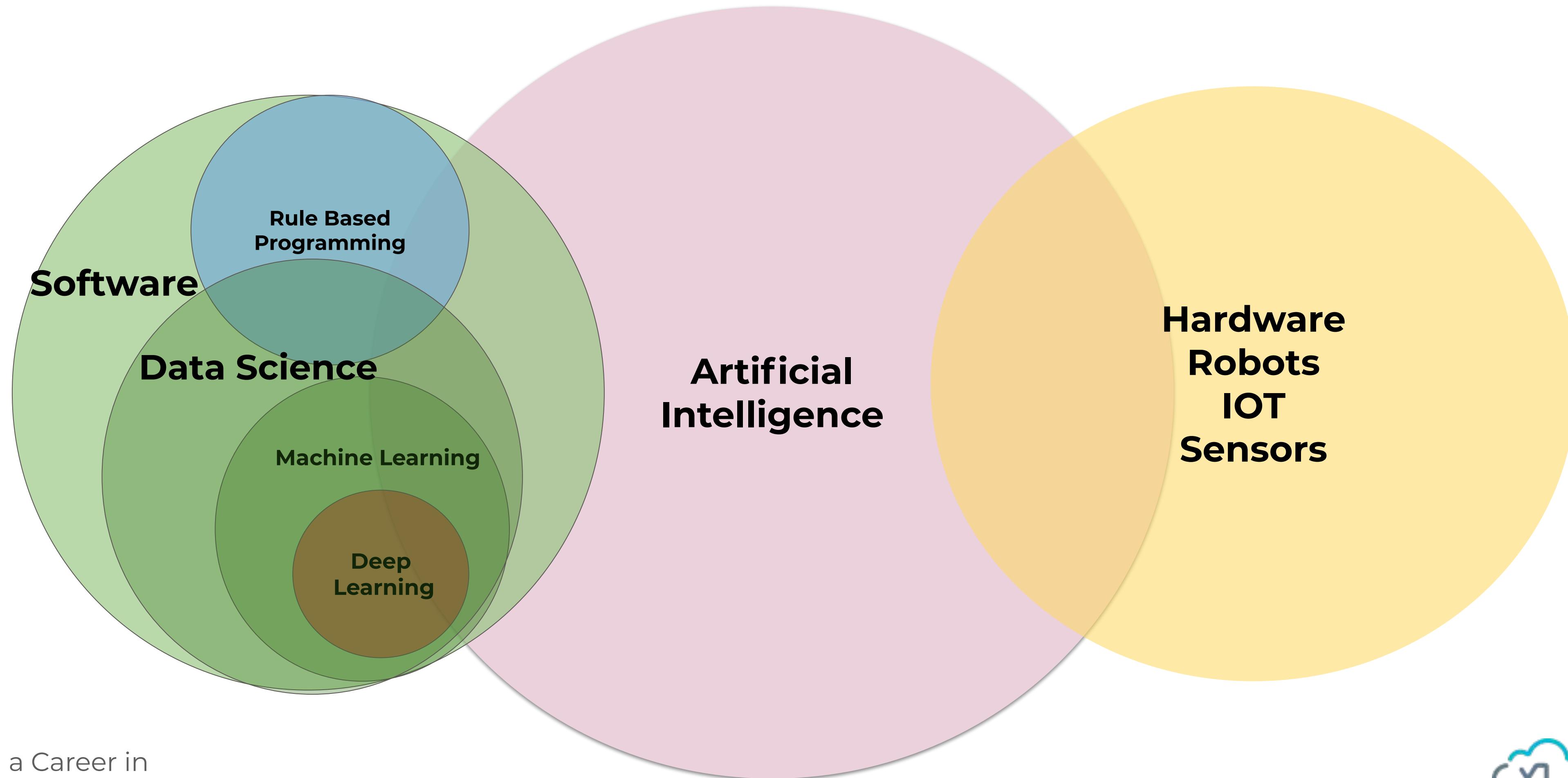


Sub Objectives of **AI**



Sub Objectives of **AI**

- AI is the End Objective
- Softwares such as Machine Learning and deep learning and Hardwares are tools to achieve AI





Every industry
is trying to
predict.



Manufacturing industry is
trying to **predict** ...

- which products to manufacture
- which process optimization to be done
- what price of product to be kept?
and more..

➤



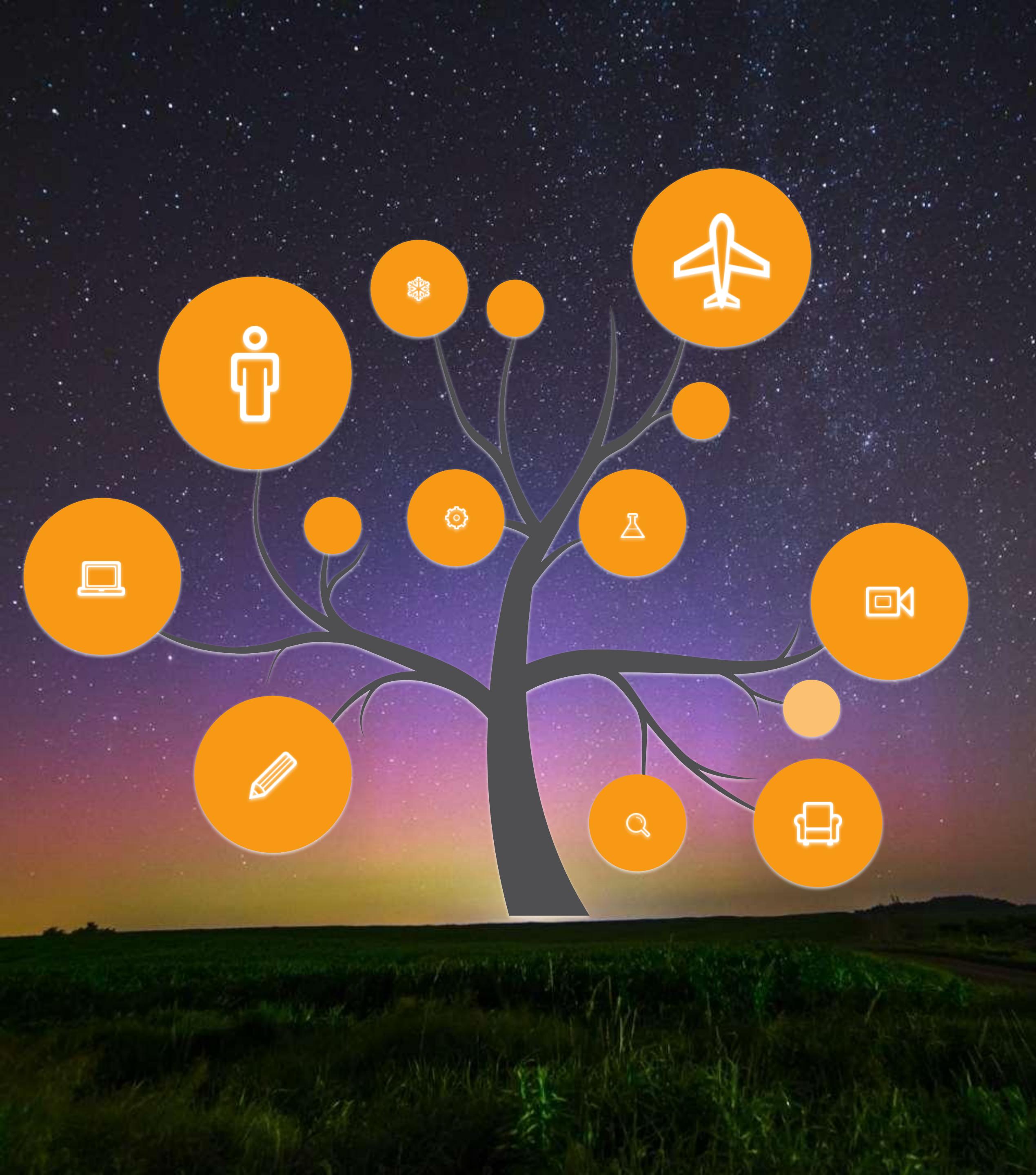
Agriculture Industry is trying to **predict** ...

- which crops to grow.
- what'd be prices of produce.
- what process to follow.



Healthcare industry is trying to **predict** ...

- the disease based on symptoms
- which drugs are effective
- how can a pandemic be stopped..
- which operating procedure is most effective

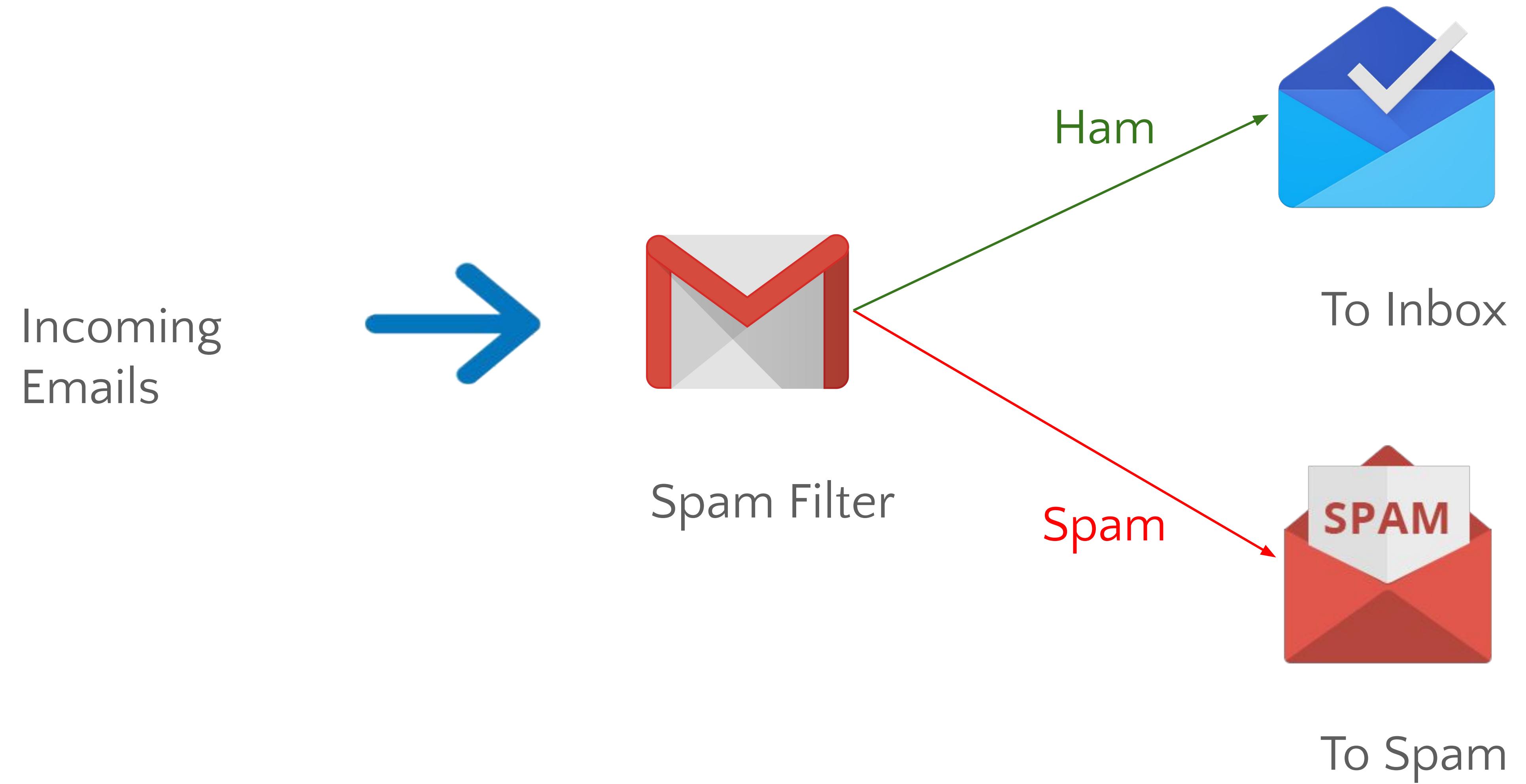


So, Every
industry is
trying to
predict.

| What has changed now?

Earlier human used to come up with model to **predict**. Now,
human uses **computers and ML** to predict







How you would write a spam filter?

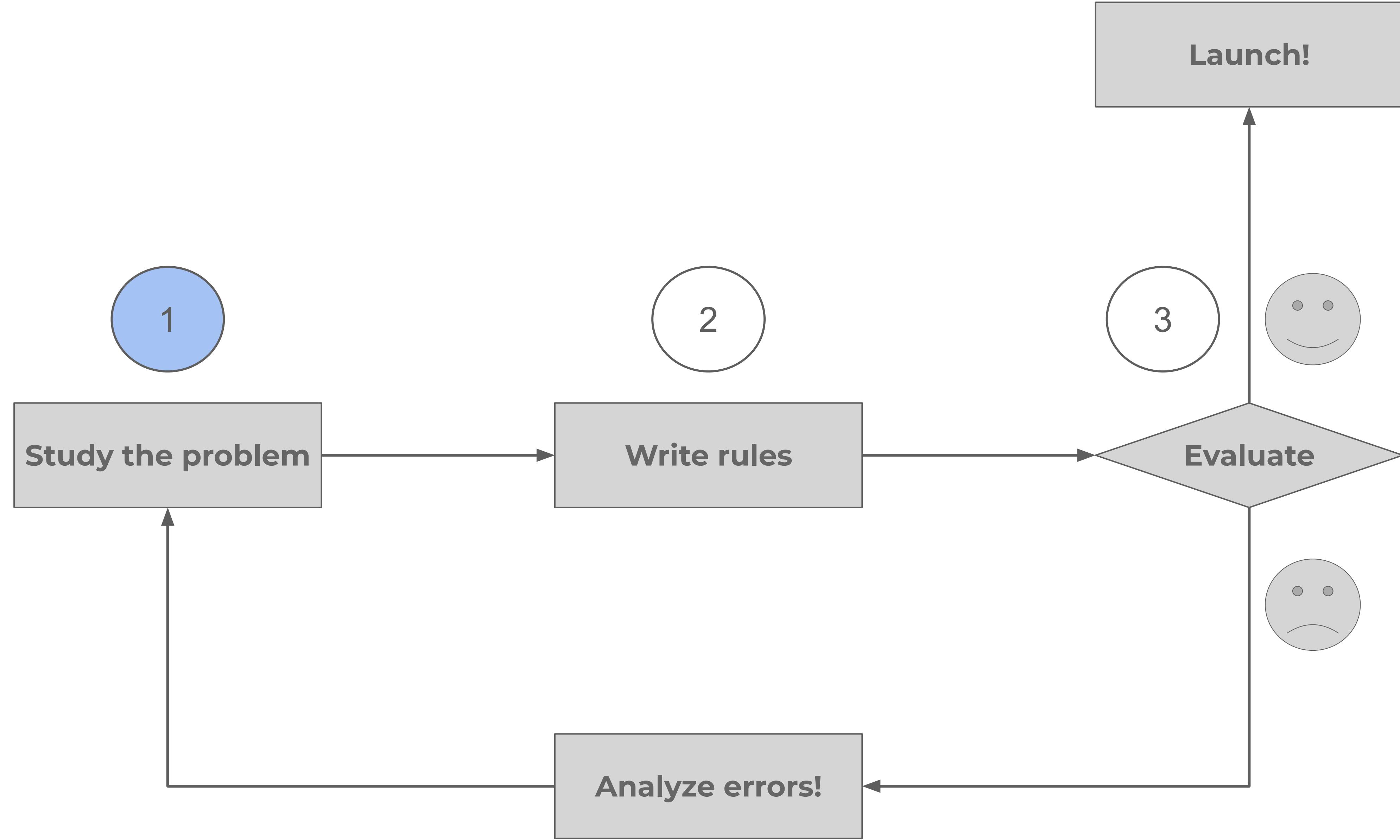


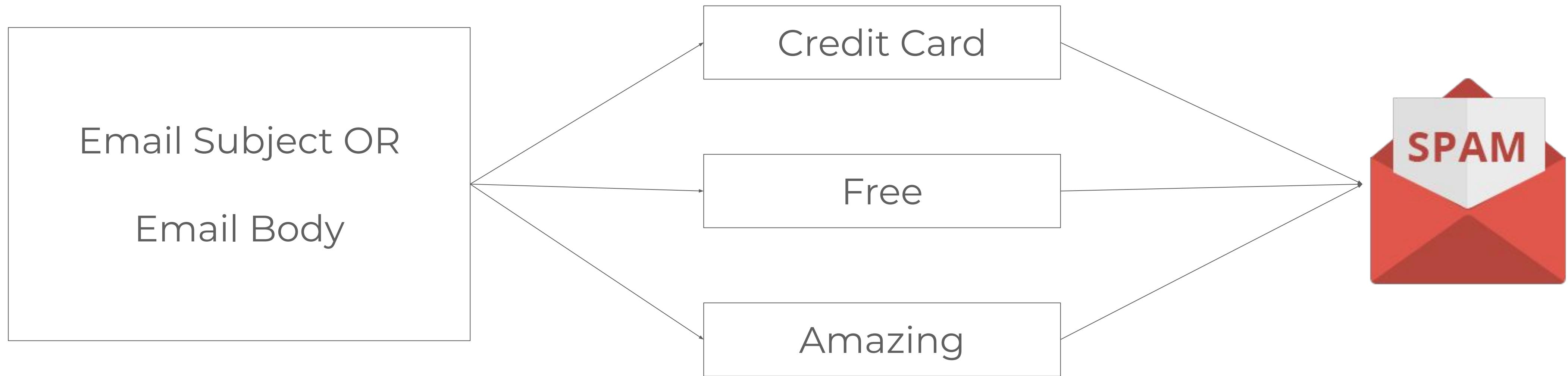
Spam Filter using Traditional Approach

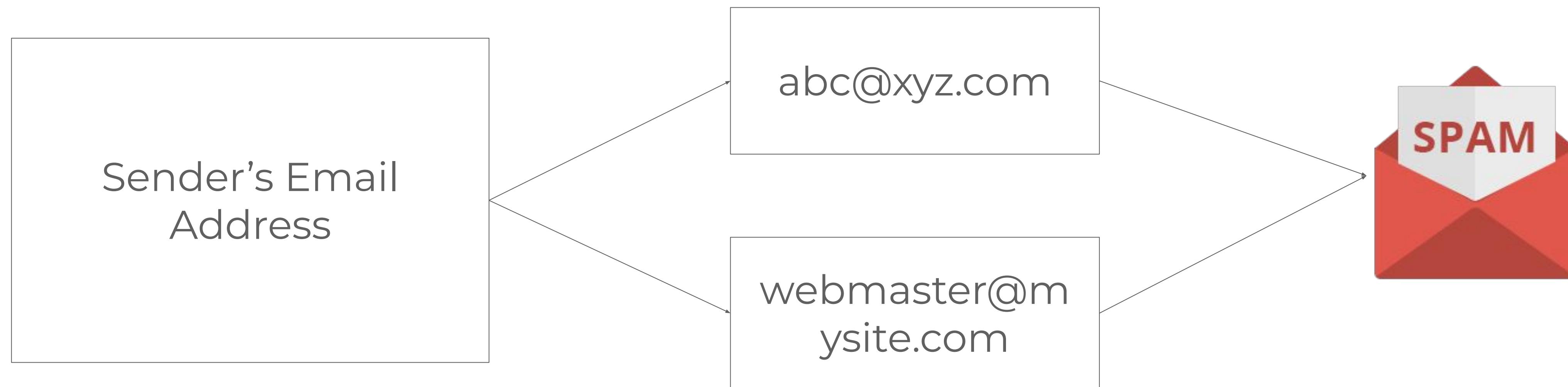


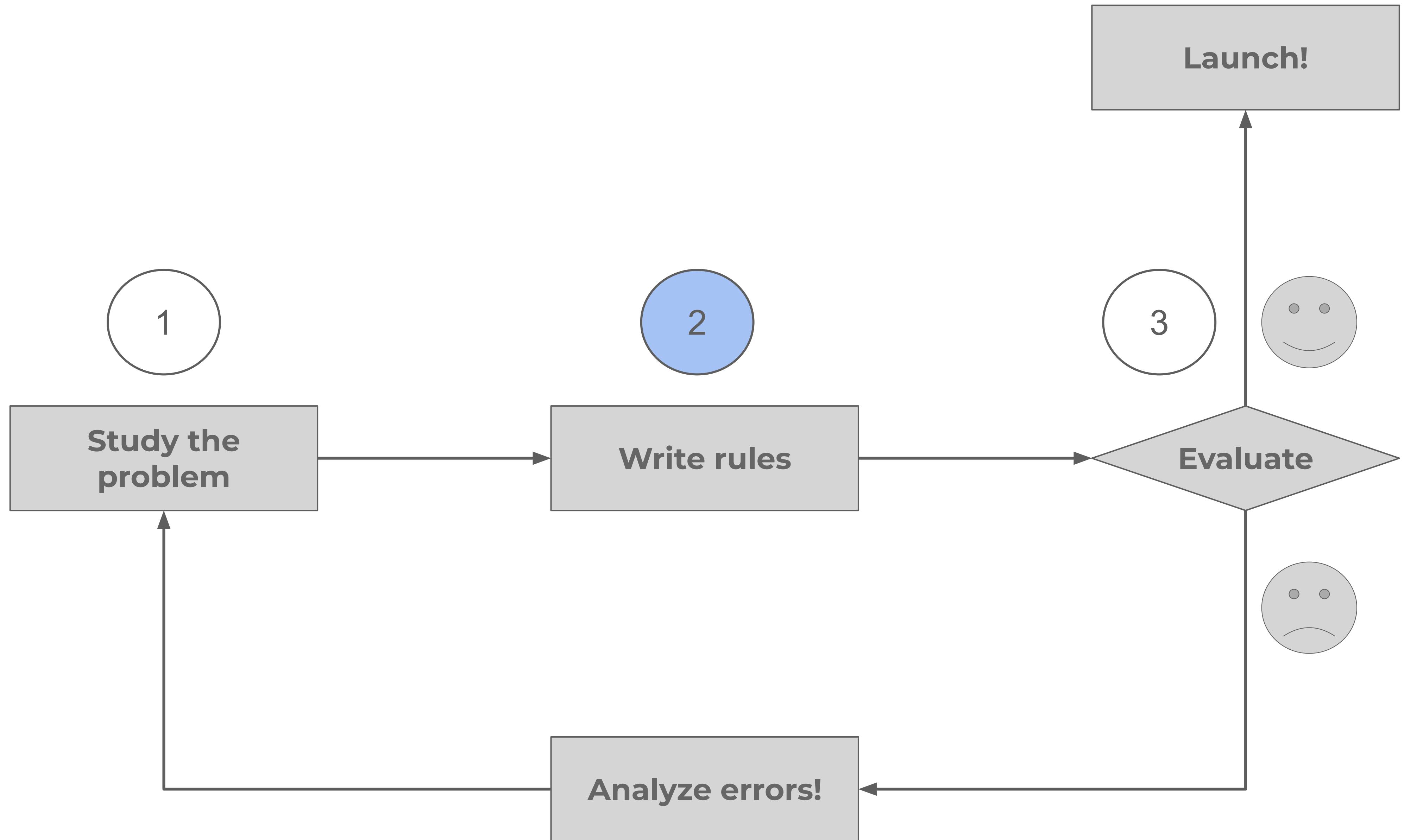
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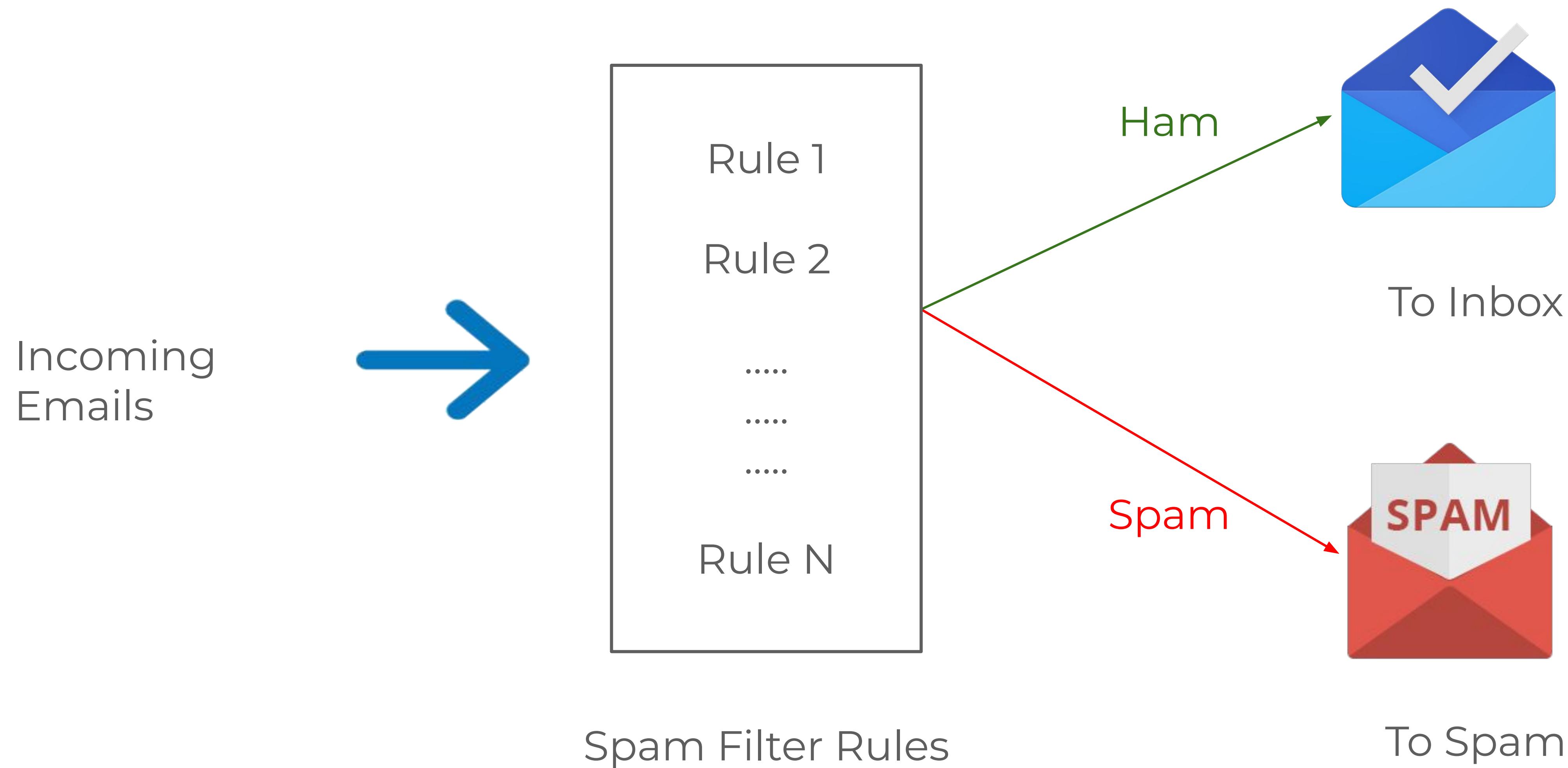


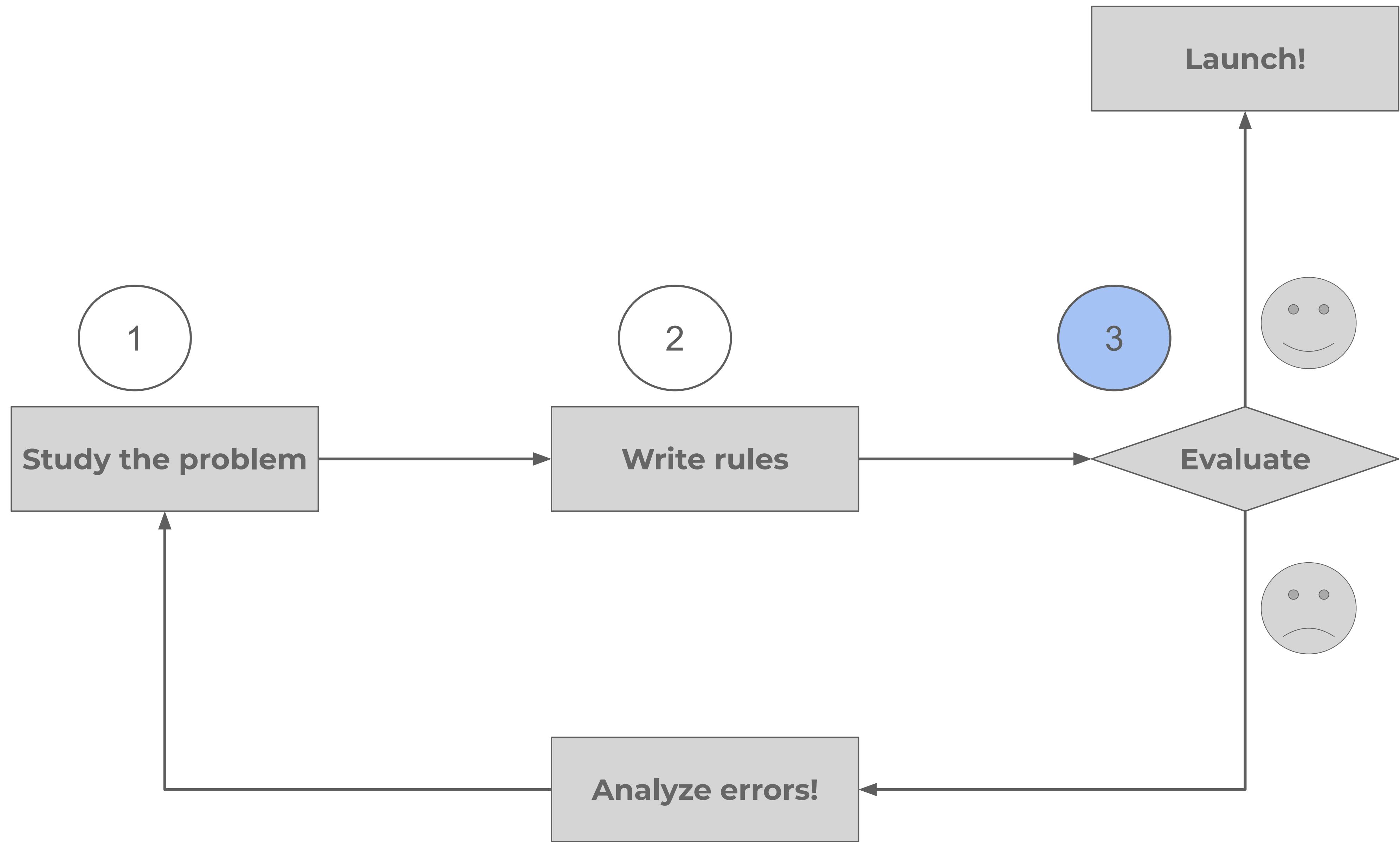






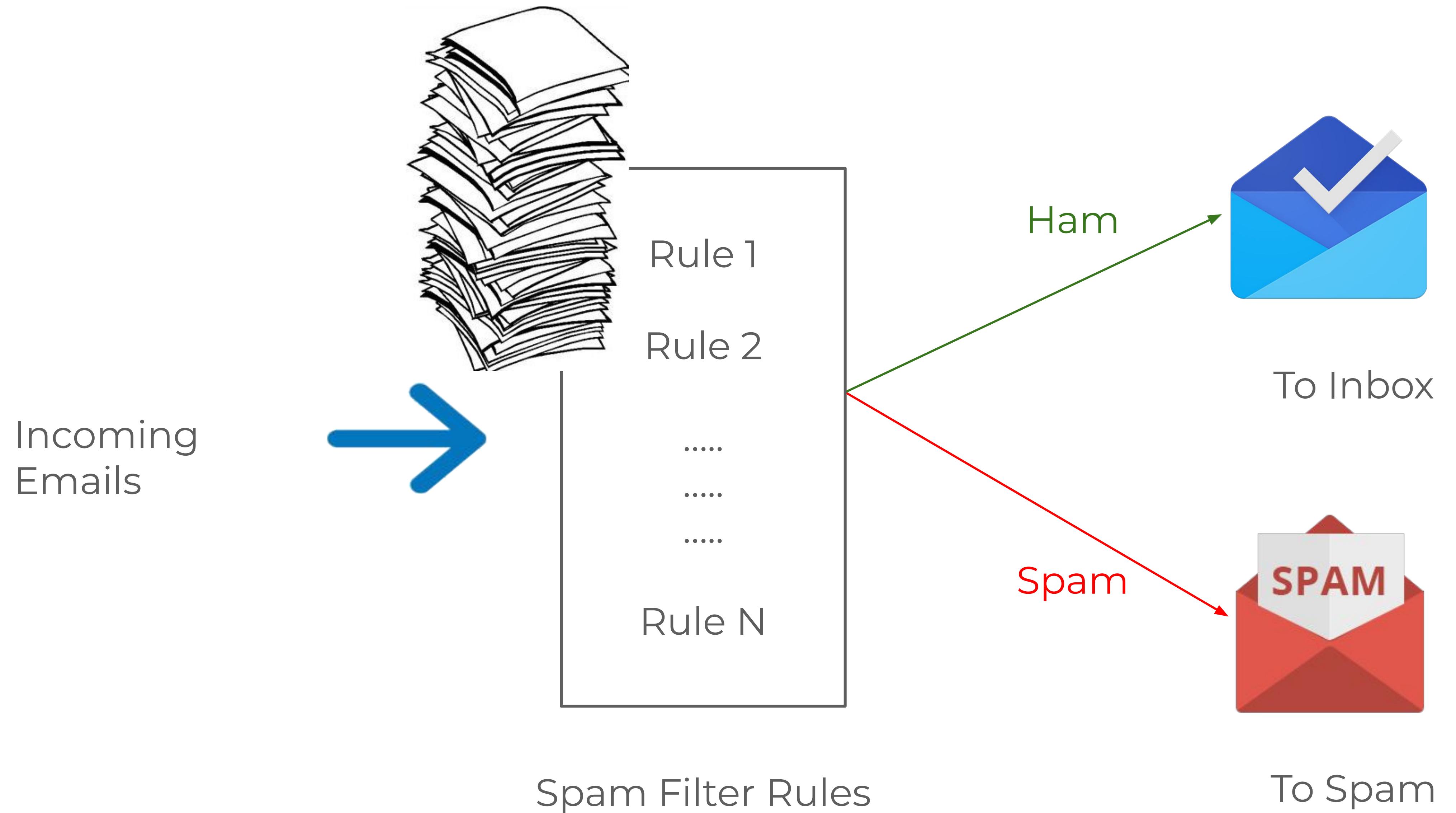


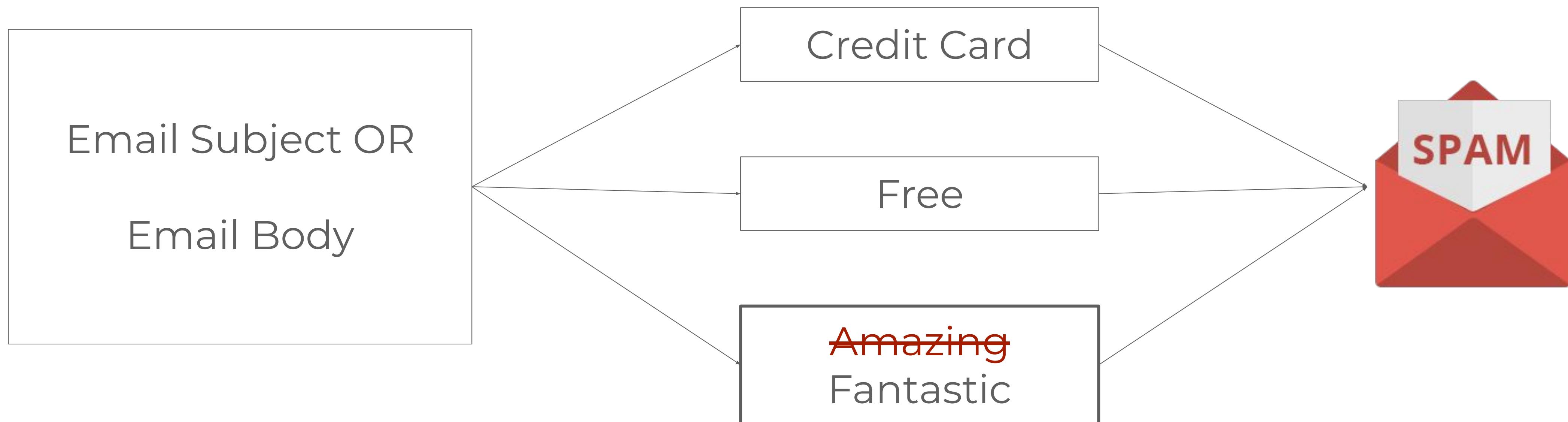




Problems with Traditional Approach?



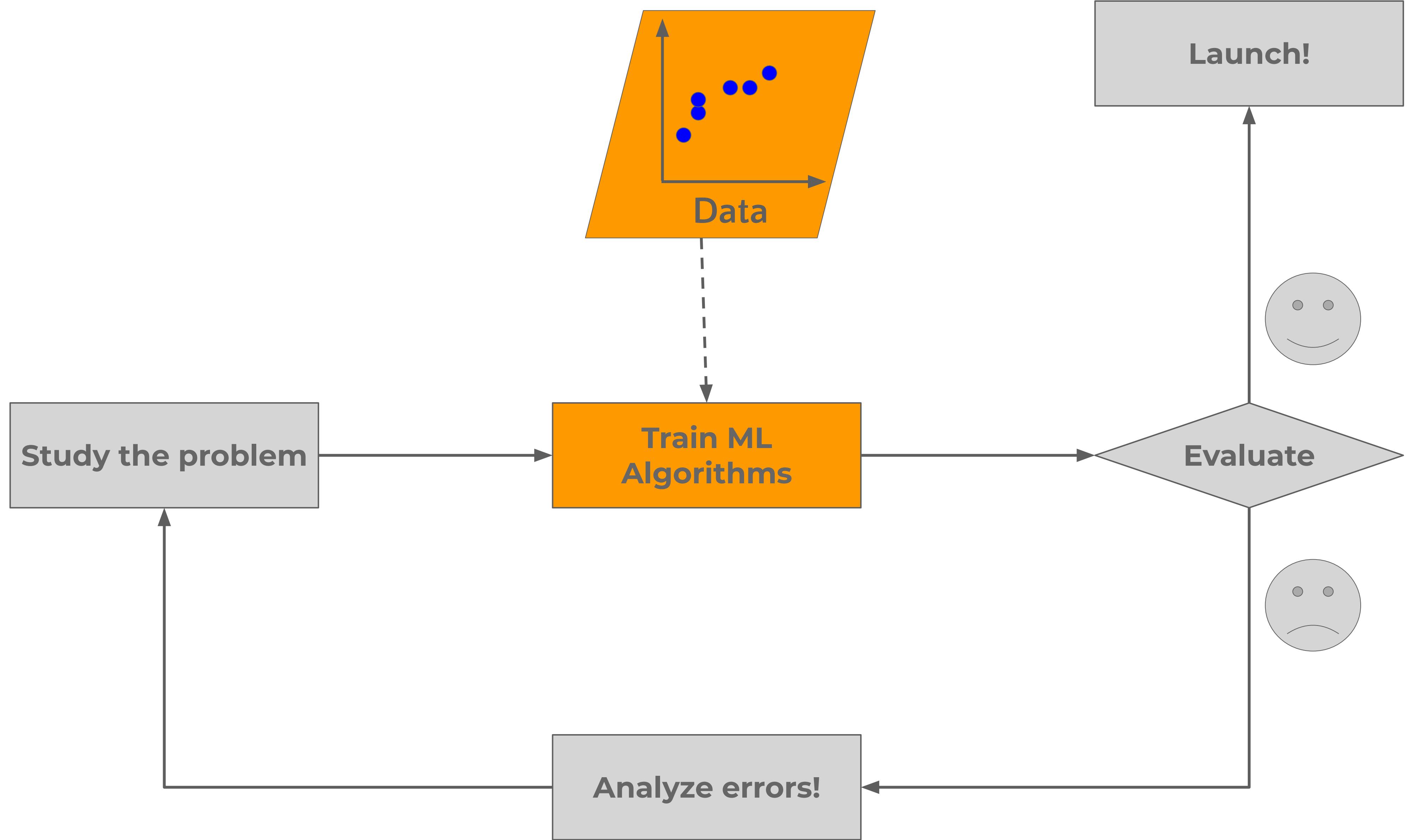




Spam Filter using ML Approach



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Every industry's prime objective is
prediction of some kind.



Every industry's prime objective is
prediction of some kind.

Earlier human used to come up with model
to ***predict***. Now, human ***teaches computers***
to predict



Every industry's prime objective is
prediction of some kind.

Earlier human used to come up with model
to ***predict***. Now, human ***teaches computers***
to predict

So, ***Machine Learning*** will be the main work
of every industry.



| Careers - Stats & Paths



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A Typical **Workflow**

NoSQL
Databases,
HBase, HDFS,
Kafka



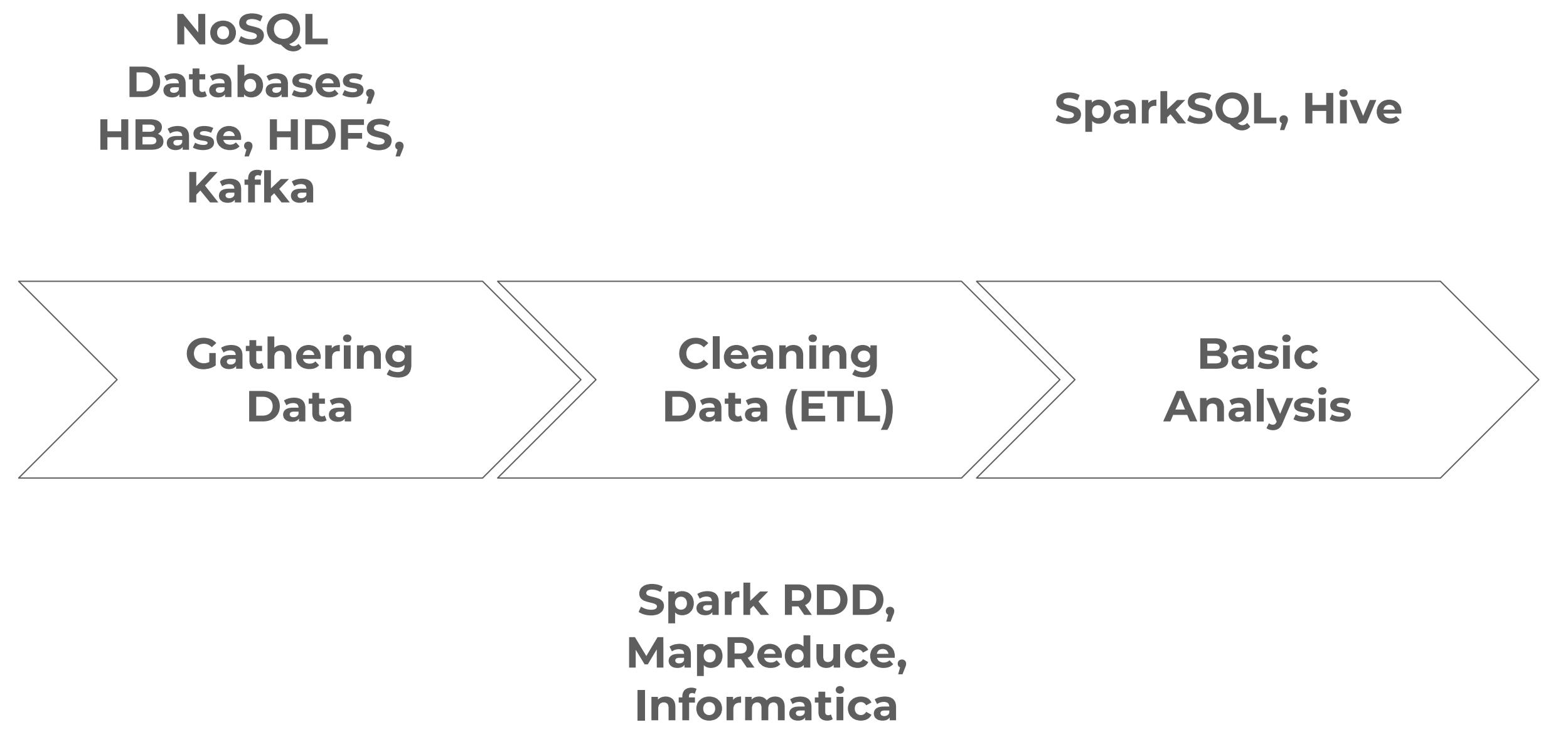
A Typical **Workflow**



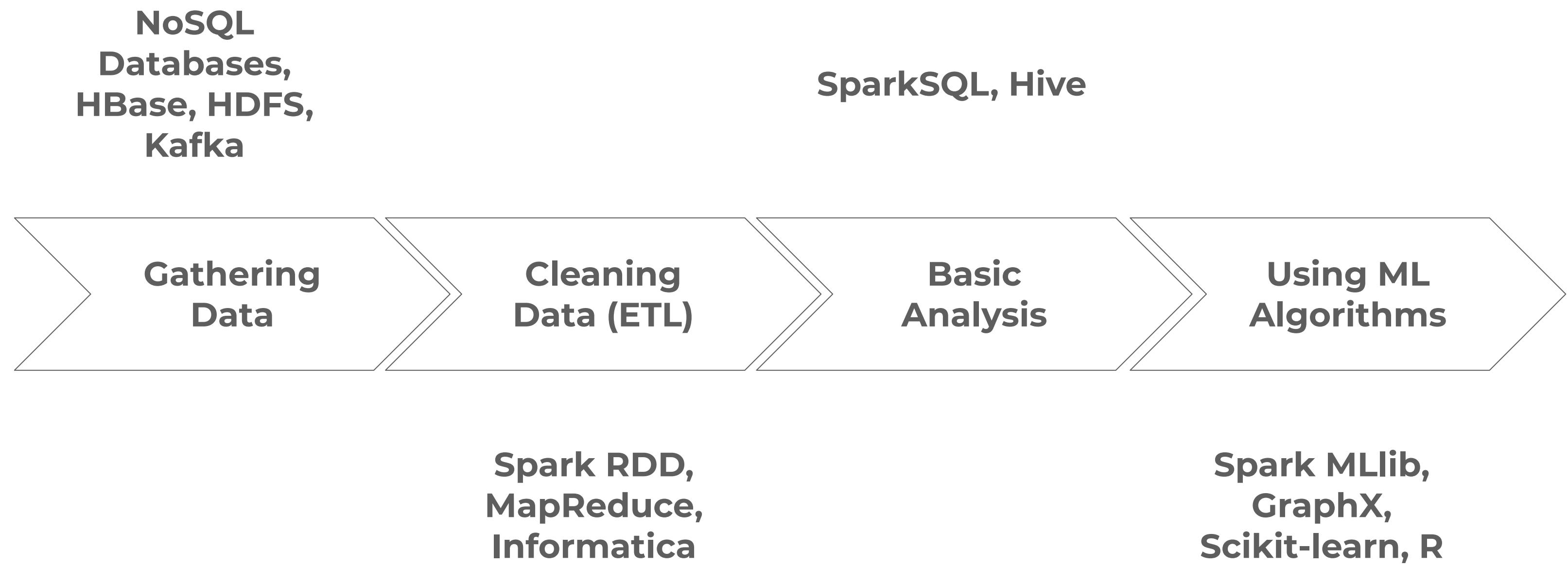
Spark RDD,
MapReduce,
Informatica



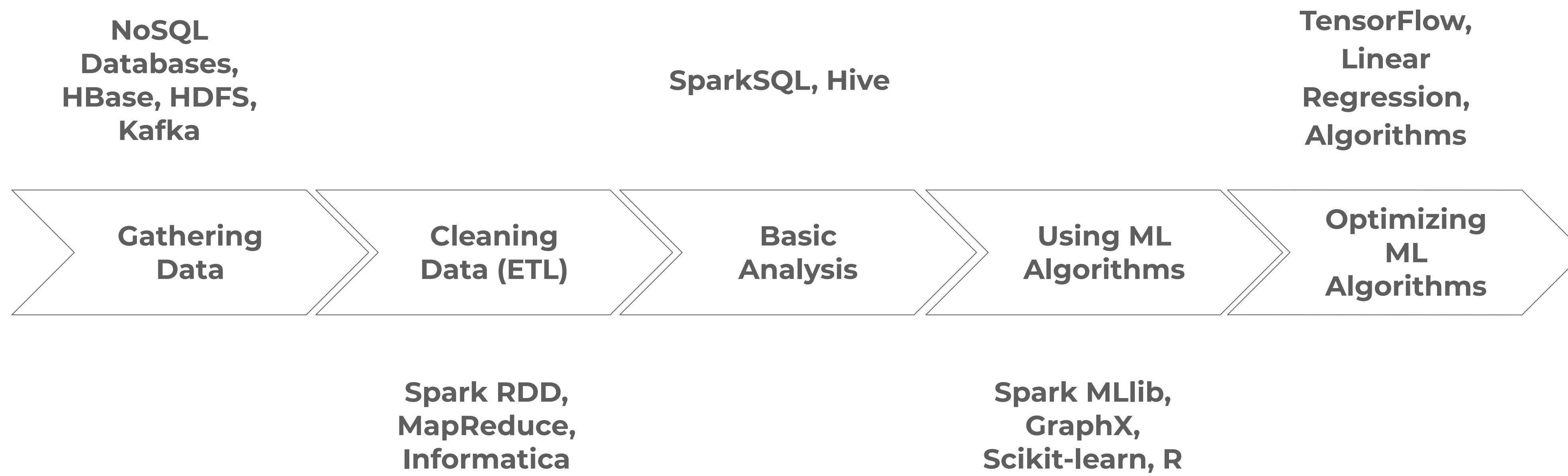
A Typical **Workflow**



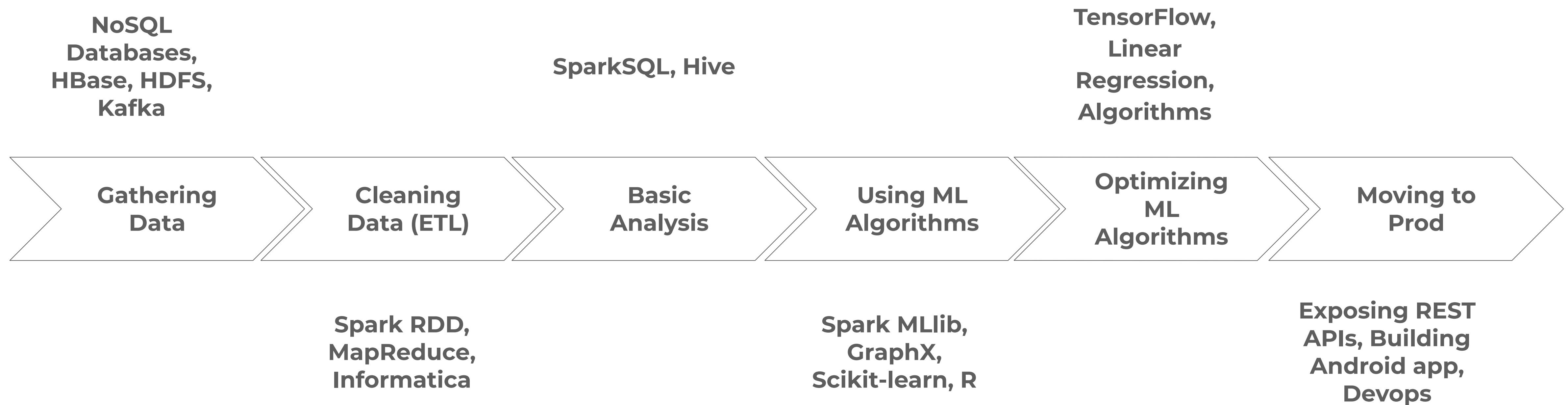
A Typical **Workflow**



A Typical **Workflow**



A Typical **Workflow**



Careers

 Only
Basics

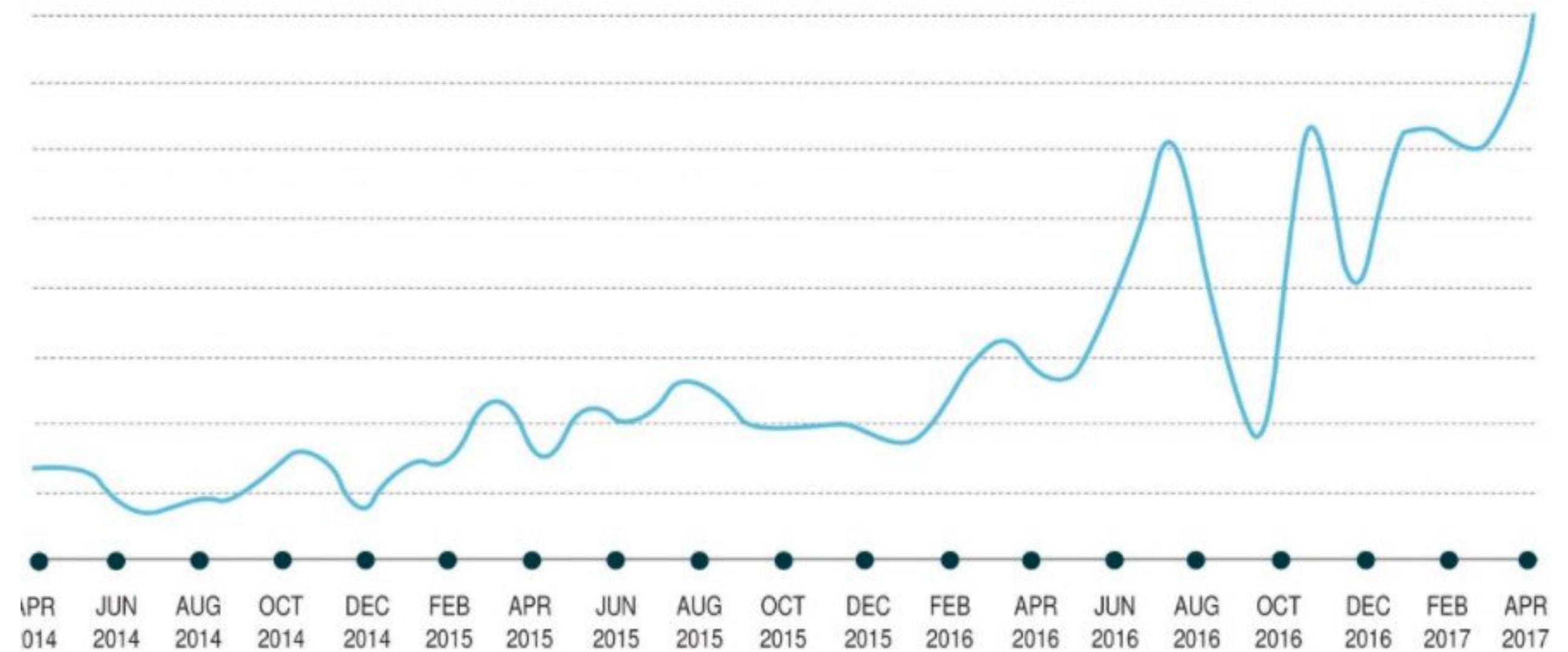
 Good
Knowledge

	Software Engineer - ML	Software Engineer - Big Data	Applied ML Engineer	Core ML Engineer	Data Analyst
CS Basics					
Probability and Statistics					
Data Modeling and Evaluation					
Applying ML Algos & Libs					
SW Engg & System Design					
Big Data					



Data Science Jobs have **Increased**

- Data Scientist has been called the sexiest job of the 21st century
- There will be 11.6 million new jobs by 2026 per statistics
- Post Covid everything will digitize faster creating more opportunities



AI, ML Jobs are **Resilient**

- This is one of the worst economic crisis in centuries
- Reports of job losses and record unemployment worldwide
- AI, ML jobs are still expected to grow this year and accelerate further



The Wall Street Journal COVID-19 resources header featuring navigation links for live updates, back to work Q&A, going outside safely, can I get sick again, and child care.

ARTIFICIAL INTELLIGENCE

AI Hiring Expected to Show Resilience Amid Coronavirus Slowdown

Technology workers with artificial-intelligence skills are being spared from the current wave of layoffs and may see employment opportunities increase

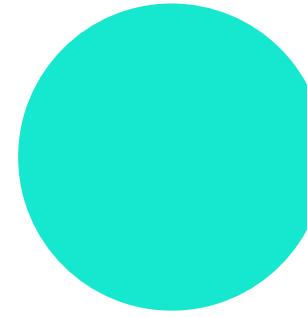
CENTRAL BANKS

Bank of England projects worst UK economic slump since 1706

Uber lays off 3,500 employees in a three-minute-long Zoom call, says 'today will be your last working day'



Future of Work - **AI will Dominate**



AI Jobs

AI jobs will increase by 16% in 2020 to 96900 per WSJ



AI Funding

285 AI-related companies in the U.S. raised \$6.9 billion in the first quarter of 2020.



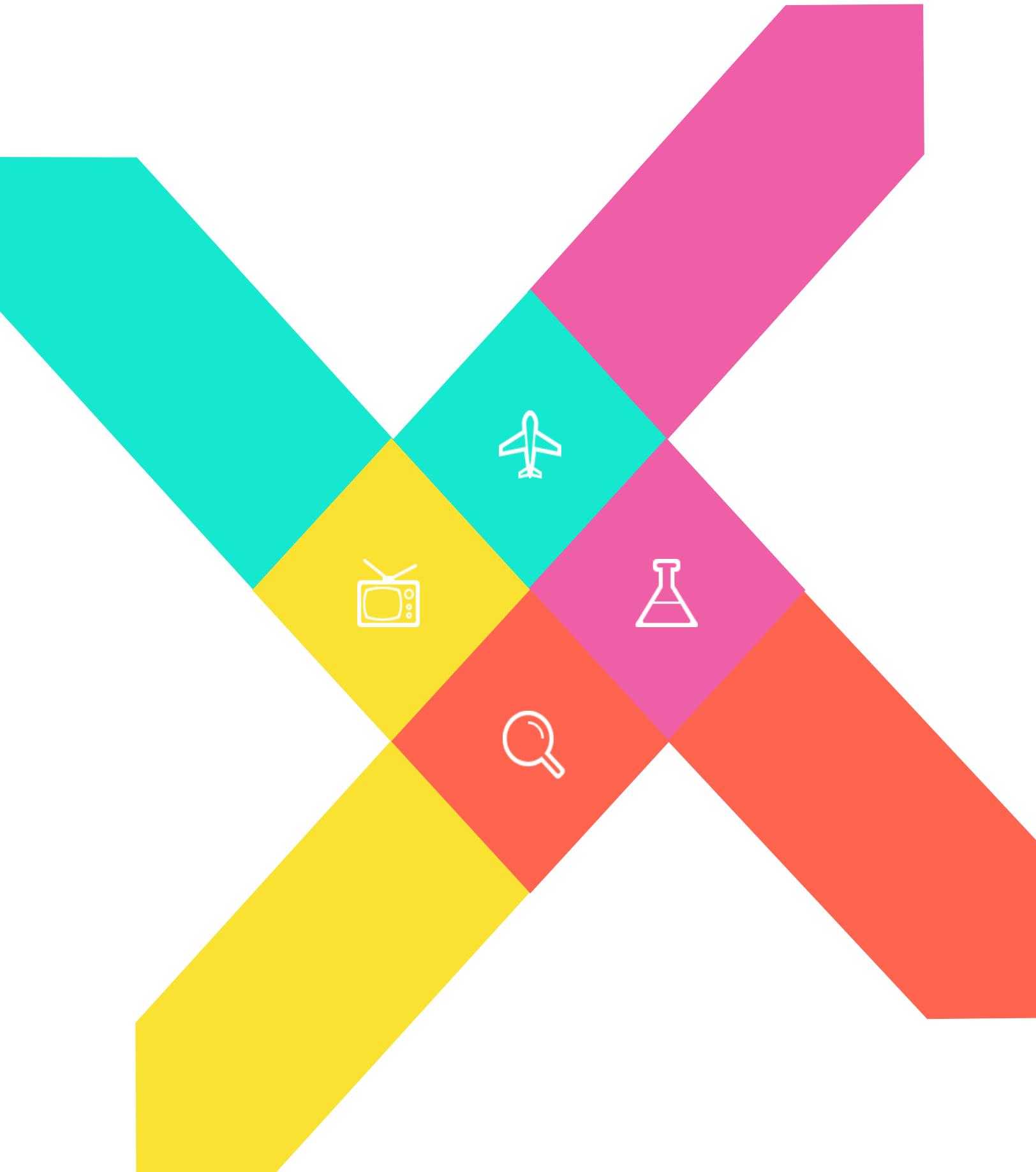
AI in Automotive

The automotive AI market will reach \$15.9 billion by 2027



AI growth is Global

Chinese AI startups have raised \$15 billion till 2019, UK AI startup have raised \$4 billion



New Courses at CloudxLab



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MSc Deep Learning and Artificial Intelligence



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Introduction MSc



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 CLOUD x LAB

About the Program

The cornerstone of the two-year Master's program in Deep Learning and Artificial Intelligence are sponsored projects in association with organizations who have set new benchmarks in AI implementation. The program participants will be part of at least two areas of focus from the broad areas listed. Participants will work problem formulation to solution deployment with an industry mentor on an area of their choice.



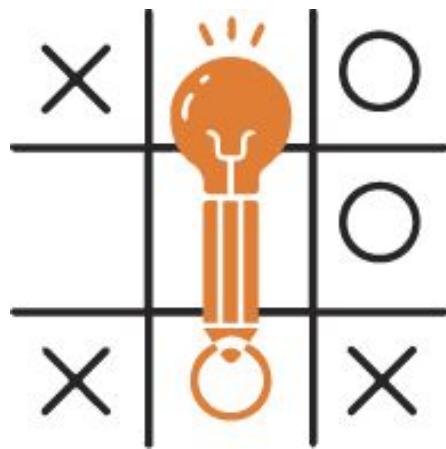
Program **Highlights**



Globally valid degree with
WES recognition and UGC
approval



Opportunity to work with
MNCs specified Real time
projects



Experiential Learning with
Gamified Labs with Auto
assessments



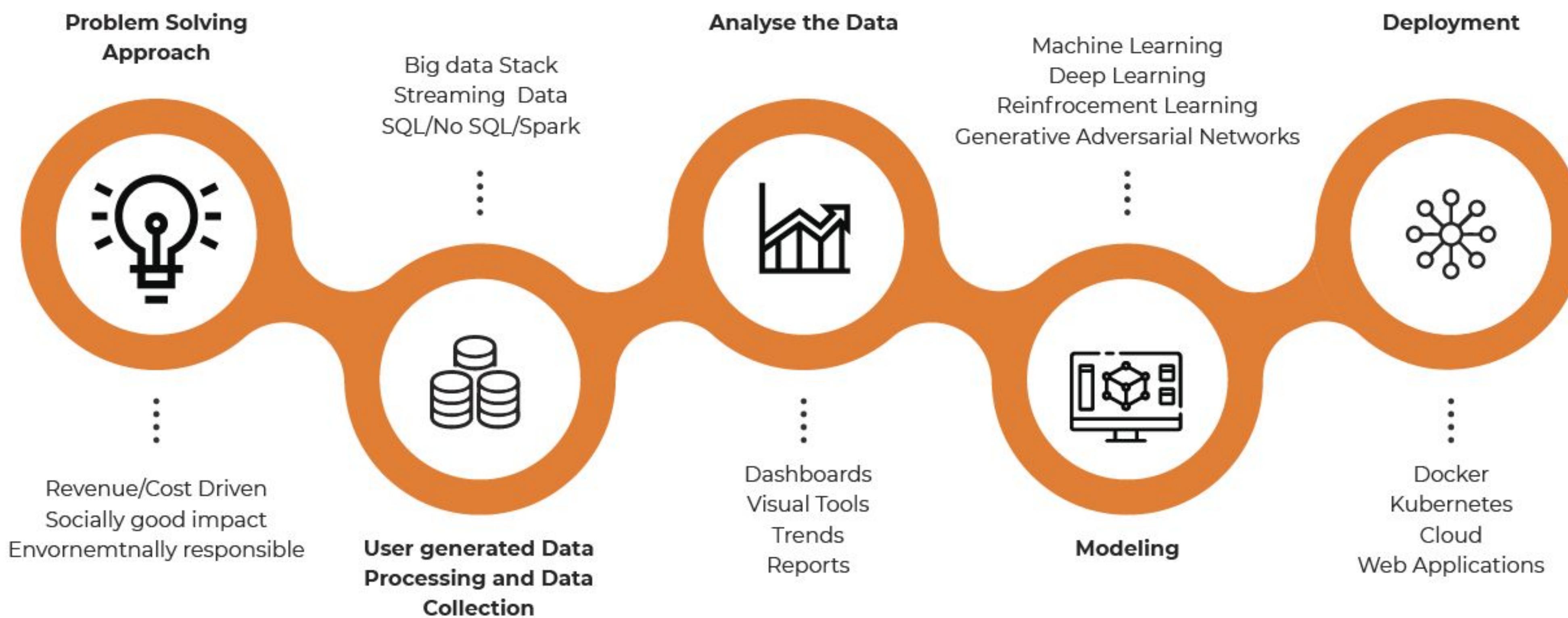
Alumni Status from REVA
University and Reva Academy
for Corporate Excellence



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Build Full Stack **Data Science and AI Skills**

This program builds an end-to-end, design to deployment skillsets to solve problems which is the most sought after skills in this booming industry. The program is designed to create real skills in working with 20 plus tools in a gamified environment



Faculty Members



[Dr. J. B. Simha](#)

Professor and Chief Mentor
AI and CTO of ABIBA Systems



Dr. Shinu Abhi

Professor and Director - Corporate
Training REVA University



Dr. Vaibhav Kumar

Associate Professor - RACE
REVA University



Praveen Pavithran

Co-Founder at Yatis
Past: YourCabs, Cypress Semiconductor



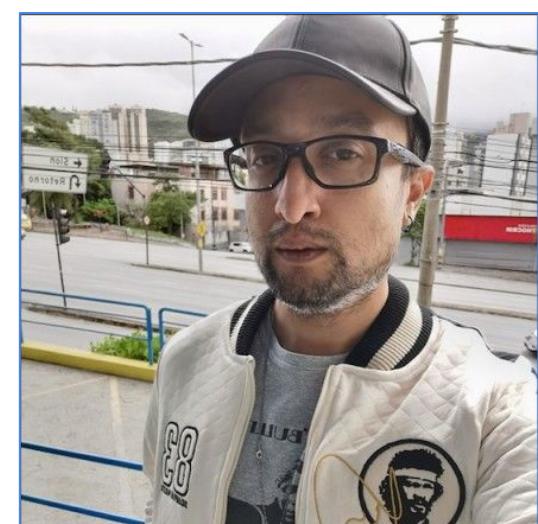
Ratnakar Pandey

Leading ML and Analytics for Customer
Service, Amazon



Sandeep Giri

Founder at CloudxLab
Past: Amazon, InMobi, D.E.Shaw



Venkat Karun

Staff Software Engineer
Google



Pradeepa Mishra

Lead Technical Architect
AI, L&T Infotech



Abhinav Singh

Co-Founder at CloudxLab
Past: Byjus



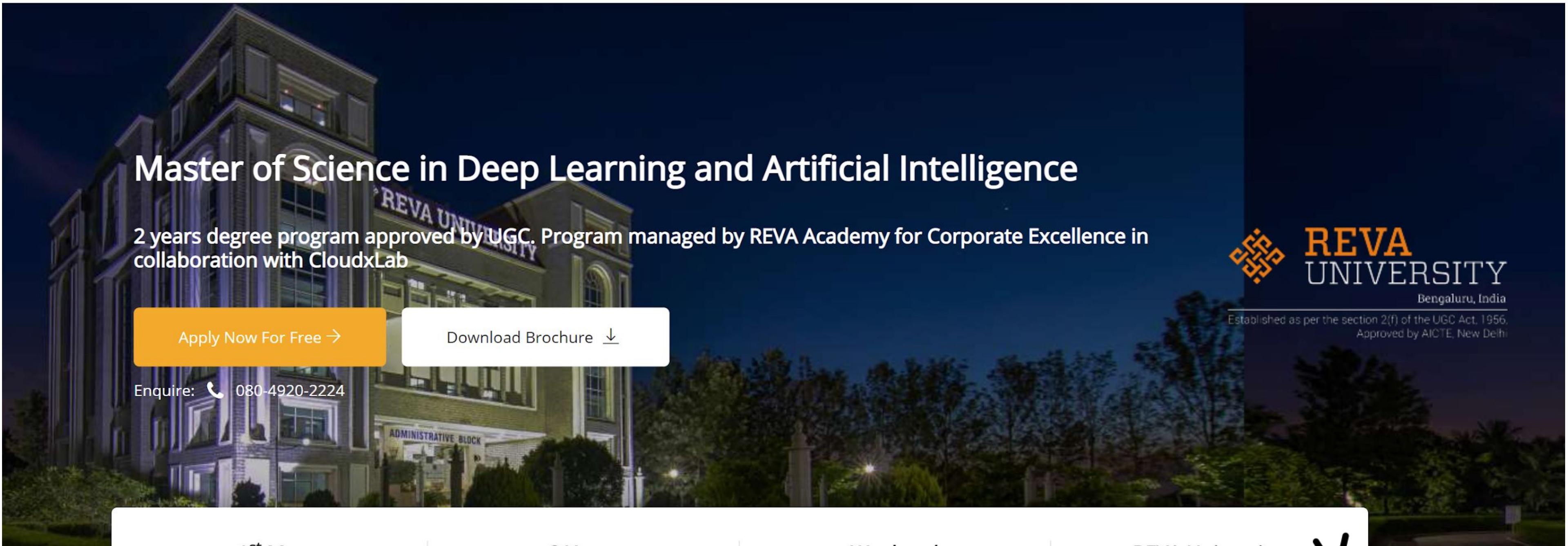
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Learn More About the Program



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Apply Now



Master of Science in Deep Learning and Artificial Intelligence

2 years degree program approved by UGC. Program managed by REVA Academy for Corporate Excellence in collaboration with CloudxLab

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Enquire: ☎ 080-4920-2224

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Approved by AICTE, New Delhi



<https://cloudxlab.com/course/110/master-of-science-in-deep-learning-and-ai>



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Advanced Certification in Data Science in AI by EICT Academy - IIT Roorkee

This Data Science and AI Certification Program is an online course. This course covers some of the most trending and latest technologies in the market like Tensorflow 2.0, Generative Adversarial Networks (GANs) etc. The cutting edge content provided through this course will help you launch a career in the field of Data Science

Additionally, this course comes with our cloud lab access to gain the much needed hands-on experience to solve the real-world problems.

Upon successfully completing the course, you will get the certificate from E&ICT Academy, IIT Roorkee which you can use for progressing in your career and finding better opportunities.



Advanced Certification in Machine Learning & AI by EICT Academy - IIT Roorkee

This Machine Learning and AI Certification Program is a online course. This course covers some of the most trending and latest technologies in the market like Tensorflow 2.0, Generative Adversarial Networks (GANs) etc. The cutting edge content provided through this course will help you launch a career in the field of Machine Learning

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| Questions - discuss.cloudxlab.com 



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