

MySkill

#RintisKarirImpian

# Secure Your First Data Analyst Job

**Achmad Rozie**

Data Analyst at Flip



**Achmad Nafila  
Rozie**

- **XL Future Leader Awardee #6**
- **Industrial Engineer at ITS,  
Surabaya**
- **Big Data & Customer Loyalty  
PMO at Toyota-Astra Motor**
- **Data Analyst at Flip**

# Poin Belajar



- What is Data? How it stored?
- Data in Industries
- What and Why Big Data?
- Data Analyst, Data Engineer, Data Scientist.  
Which one that fit for your?
- Future opportunities of data role in data field



## Kominfo Anggarkan Rp 61,3 Miliar untuk Big Data Nasional

Haris Fadhill - detikNews

Selasa, 02 Agu 2022 08:35 WIB

3 komentar

BACIKAN



Kominfo (Agus Tri Haris)

## Ingin Sukses? Menteri Bambang Sarankan Kuasai Big Data

TECH - Ferry Sandi, CNBC Indonesia

25 November 2018 10:16



Foto: Bambang Brodjonegoro (CNBC Indonesia/Tri Susilo)

## PeduliLindungi Kini Bisa Cek Riwayat Kesehatan Keluarga, Data Dijamin Aman?

Mochammad Fajar Nur - detikHealth



Blak-blakan

## Mengulik Big Data 110 Juta Warga yang Diklaim Luhut

Deden Gunawan - detikNews

Jumat, 15 Apr 2022 08:04 WIB

A3 komentar

BACIKAN



## Telkomsel Gunakan Big Data Untuk Tingkatkan Layanan

Danang Wahyu Suryono - 25 Jun 2020 22:05 WIB





## Pertama di Indonesia, ITB dan Schlumberger Resmikan Program AI Academy

Anisa Rizki - [detikEdu](#)

Jumat, 19 Agu 2022 15:00 WIB

0 komentar

BAGIKAN

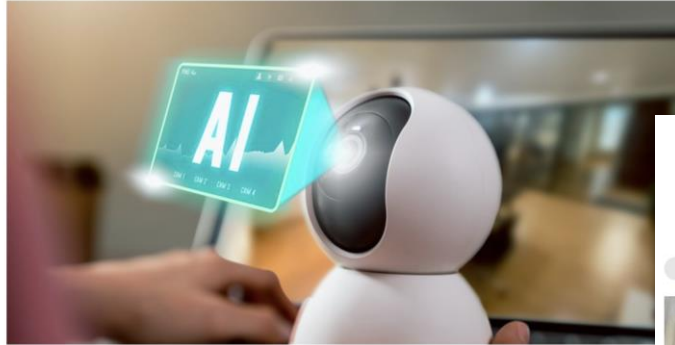


Foto: Getty Images/Stockphoto/Sitthiphong/Illustrasi AI



Video Eksklusif

### Ini Manfaat Big Data & AI di Sektor Ritel

NEWS - CNBC Indonesia TV, CNBC Indonesia

## Otomatisasi dan AI Jadi Masa Depan Call Center

Anggoro Suryo Jati - [detiknet](#)

Jumat, 19 Feb 2021 12:05 WIB

0 komentar

BAGIKAN

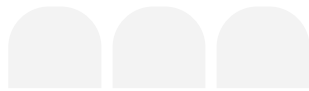


Ilustrasi call center. Foto: Grandyos Zahra





# So, what are data?



# data noun, often attributive



da-ta | \ 'dā-tə, 'da- also 'dā- \  
plural in form but singular or plural in construction

## Definition of data

- 1 : factual information (such as measurements or statistics) used as a basis for reasoning, discussion, or calculation  
// the **data** is plentiful and easily available  
— H. A. Gleason, Jr.  
// comprehensive **data** on economic growth have been published  
— N. H. Jacoby
- 2 : information in digital form that can be transmitted or processed
- 3 : information output by a sensing device or organ that includes both useful and irrelevant or **redundant** information and must be processed to be meaningful

## data

noun [ U, + sing/pl verb ]

UK / 'deɪ.tə/ US / 'deɪ.tə/ /dæt.ə/

B2

**information, especially facts or numbers,** collected to be examined and considered and used to help decision-making, or information in an electronic form that can be stored and used by a computer:

- The **data** was/were collected by various researchers.
- Now the **data** is/are being transferred from magnetic tape to hard disk.

## Data

From Wikipedia, the free encyclopedia

"Scientific data" redirects here. For the journal, see *Scientific Data* (journal).  
For data in computer science, see *Data (computer science)*. For other and *Datum (disambiguation)*.

In the pursuit of **knowledge**, **data** (US: /dæte/; UK: /dɛtə/) is a collection of discrete **values that convey information**, describing **quantity, quality, fact, statistics**, other basic units of meaning, or simply sequences of **symbols** that may be further **interpreted**. A **datum** is an individual state in a set of data. Data usually is organized into

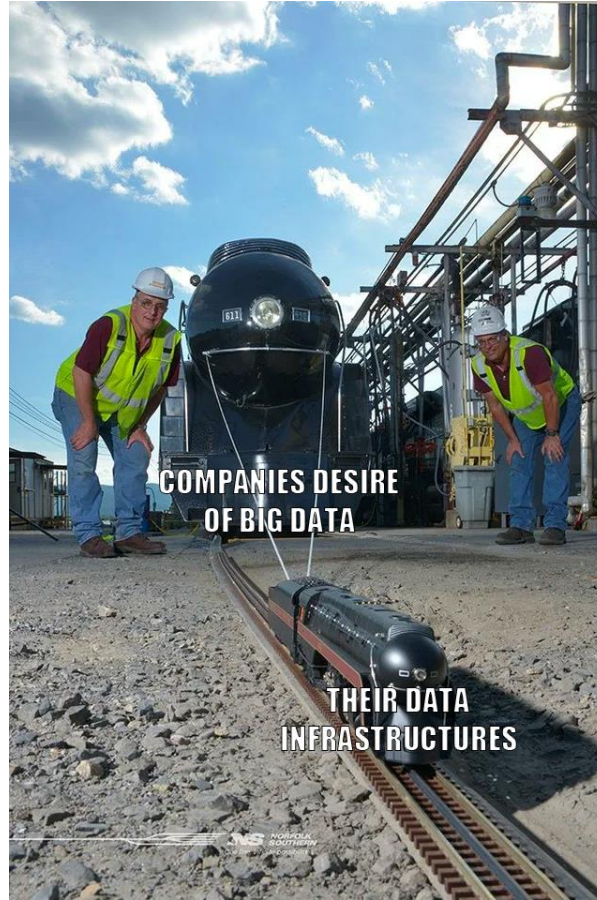
Data is  
Information



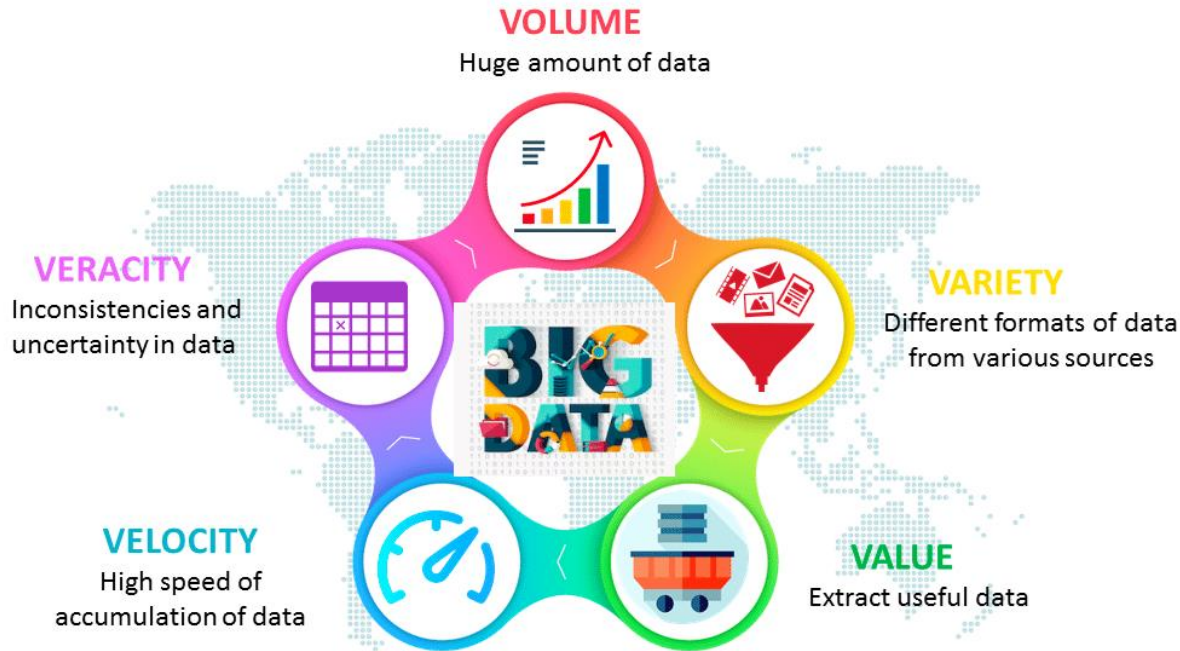


# Big data or not big data?





# 5V of Big Data





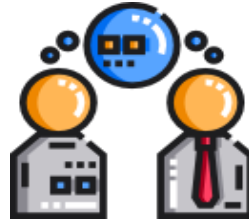
# But why data?

## And why it become more important?





**Keeping track of  
the information**



**Minimizing  
assumptions**



**Making informed  
decisions**



**Maximizing the  
opportunities**

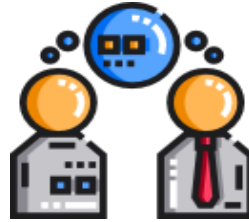


**Serving customers  
better**





**Keeping track of  
the information**



**Minimizing  
assumptions**



**Making informed  
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**Maximizing the  
opportunities**



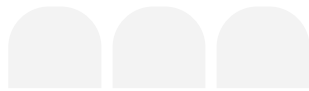
**Serving customers  
better**

**What  
else?**





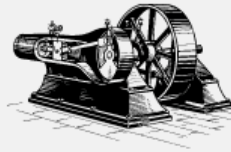
# Data in Industries



# Based on usage



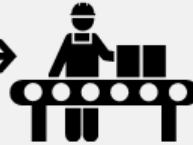
## Industrial REVOLUTIONS



Industry 1.0

mechanization,  
water and steam  
powers

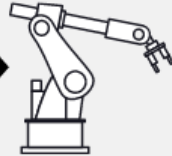
1800



Industry 2.0

mass production,  
electric power,  
assembly line

1900



Industry 3.0

computers,  
automated  
production,  
electronics

2000



Industry 4.0

cyber-physical  
systems, IoT,  
networking,  
machine learning

2010

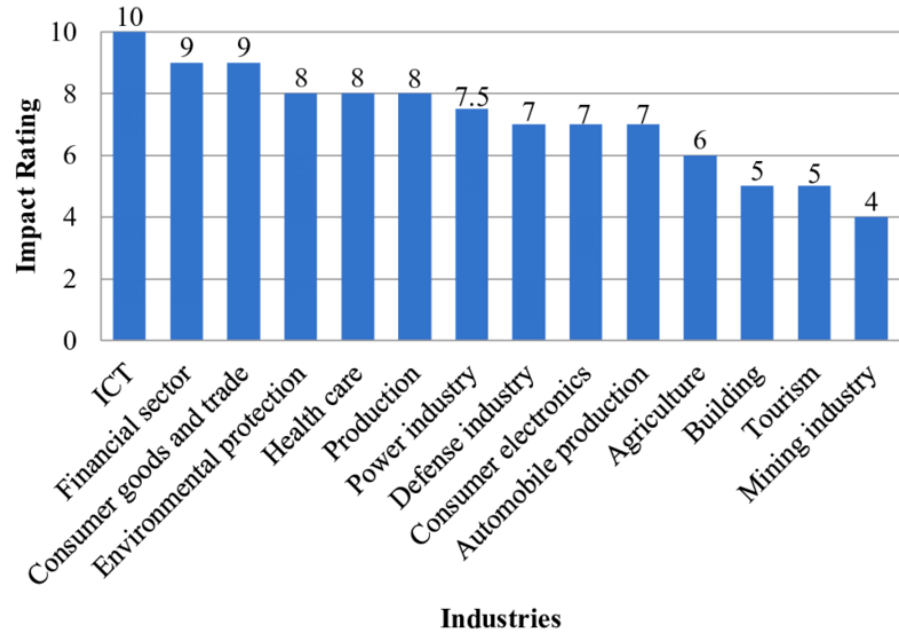


Industry 5.0

human-robot  
collaboration,  
cognitive systems,  
customization

2020

# Based on company type



**Source:** Features of Big Data approach and new opportunities of BI-  
systems in marketing activities  
(Ilin, Klimin, Shaban)  
E3S Web of Conferences 110



# Based on company type

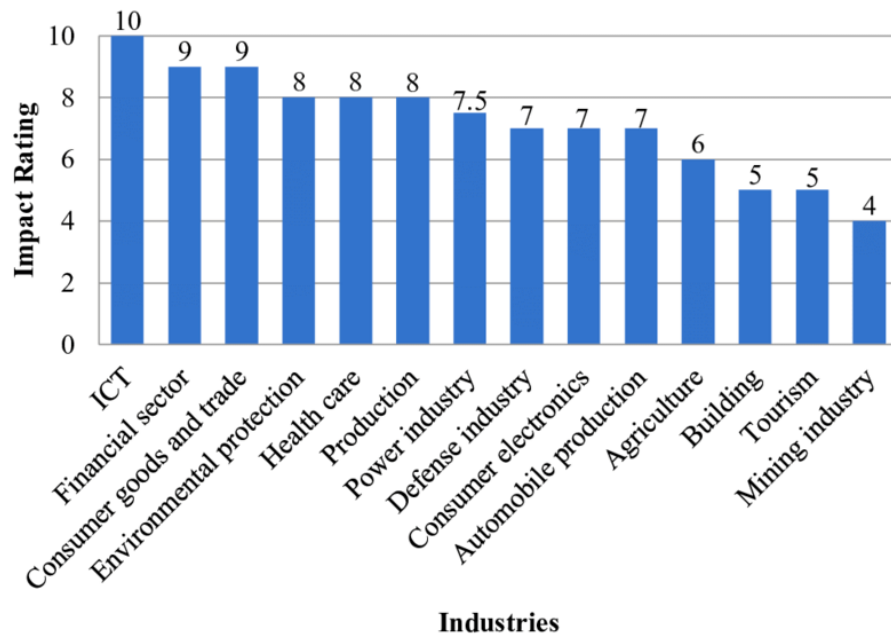
Can you tell how data impact (or even shape) the industries here?

E.g.

**ICT:** Googling



**Financial Sector:** Credit Scoring

**Consumer Goods:** Marketplace Recommendation



# How big companies use data?

- **Google** autocomplete predicts what you type just in milliseconds
- **Spotify** random shuffle plays songs with similar theme
- **Netflix** use personalized trailer to hook viewers to watch genres that they are usually not likely to watch
- **Amazon** have dynamic pricing feature to set the price automatically based on user behavior, past purchases, trend, etc
- **Instagram** ads are often creepily accurate, right? 🤖



Meanwhile, data is  
highly correlated with  
how it is **stored...**



# 1. Map (1900~)



## 2. Diskette (1990~)





### 3. Internal Data Warehouse (2010~)



## 4. Cloud (Present)





Is this “data”?



# Data need people to handle them

Else they are just literal garbage





Data Analyst

Product Analyst

Experimentation

Machine Learning Scientist

Business Intelligence Analyst

Data Engineer

Data Architect

Data Warehouse

Data Governance

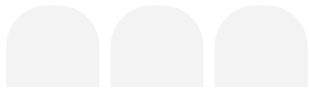
Statistician

Machine Learning Engineer

Business Analyst

Researcher

Data Scientist





## Data Engineer



Build and optimise the systems that allow data scientists and data analysts to perform their work

### Requirements:

1. Strong programming skills
2. Cloud computing technologies
3. Big data

**Tech stack:** SQL, Python, Cloud, Distributed Computing

## Data Analyst



Deliver value by analysing data, communicating the results to help make business decisions

### Requirements:

1. Communication skills
2. Business savvy/domain knowledge

**Tech stack:** SQL, BI tools, Python, R

## Data Scientist



Use data to solve business problems

### Requirements:

1. Statistics
2. Mathematics
3. Programming skills
4. Big data

**Tech stack:** SQL, Python, R, Cloud

# Which one should you pick?



Without **consider salary amount**, u should choose the one that fit based on your preference below

### Data Engineer



Answer data requirement and enablement in a company

Interest in:

- Build data infrastructure (data warehouse, pipeline, and data format)
- Clear project scope
- Tend to closed-ended project

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### Data Analyst



Answer “what” and “why” **behind the event.**

Interest in:

- Deep analysis
- Identify the anomaly
- Identify the pattern
- Possibly to be prolonged project (not 0 → 1)
- Strong in problem solving

### Data Scientist



Answer “what will” and “**personification**”

Interest in:

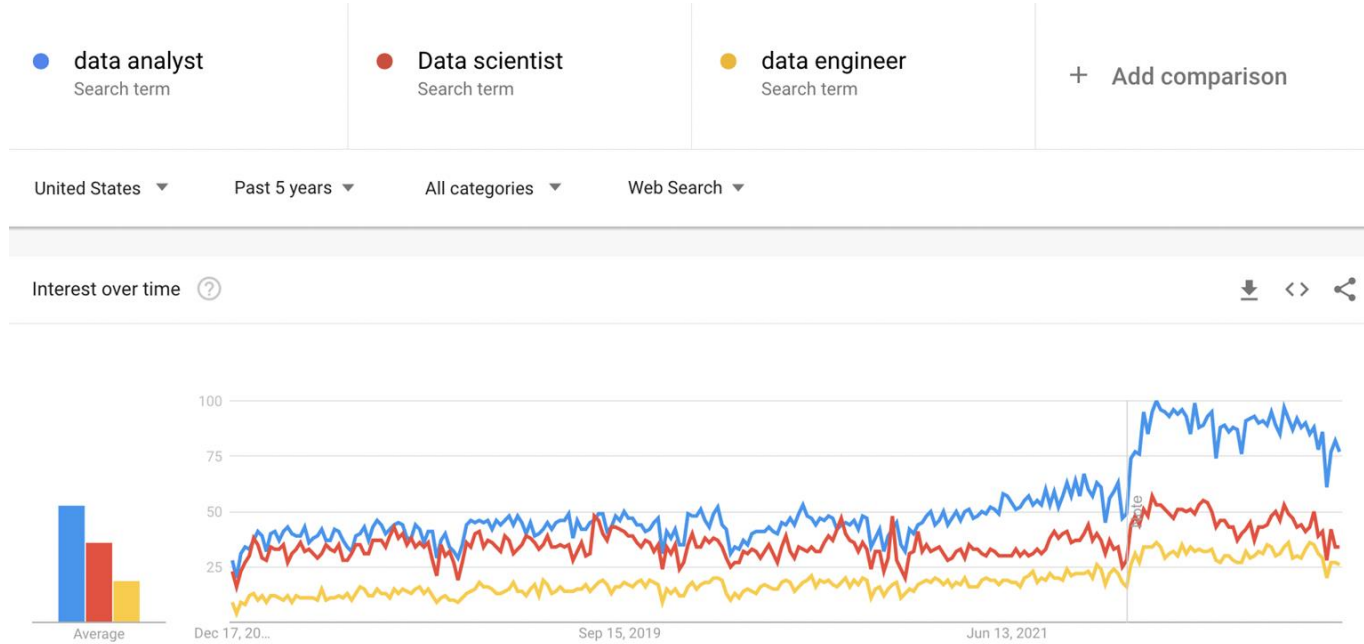
- Learning and capture new tech trend.
- Master’s degree
- Do research

# Current and Future Trend

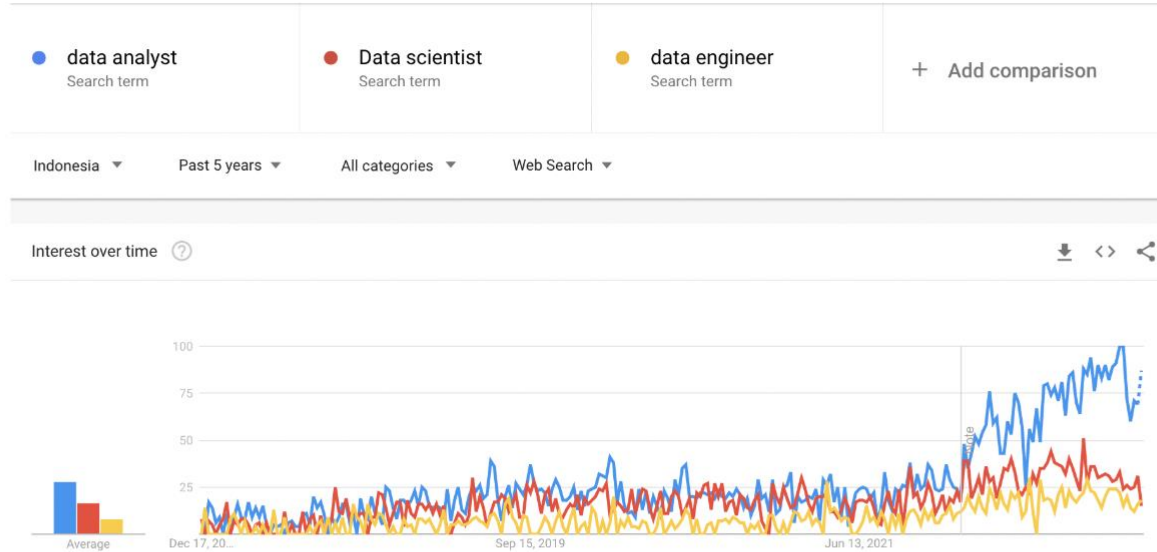
Based on Personal Opinion & Research



# Data Role Keyword Trend (US)

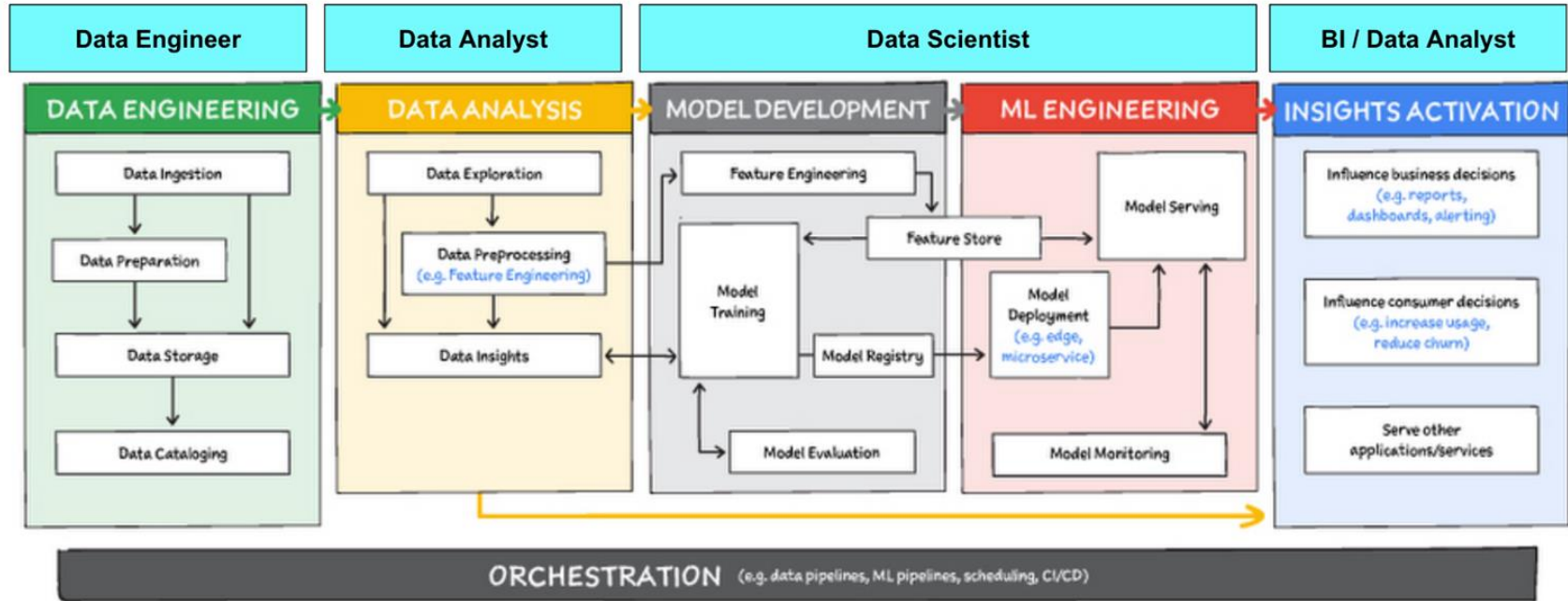


# Data Role Keyword Trend (ID)

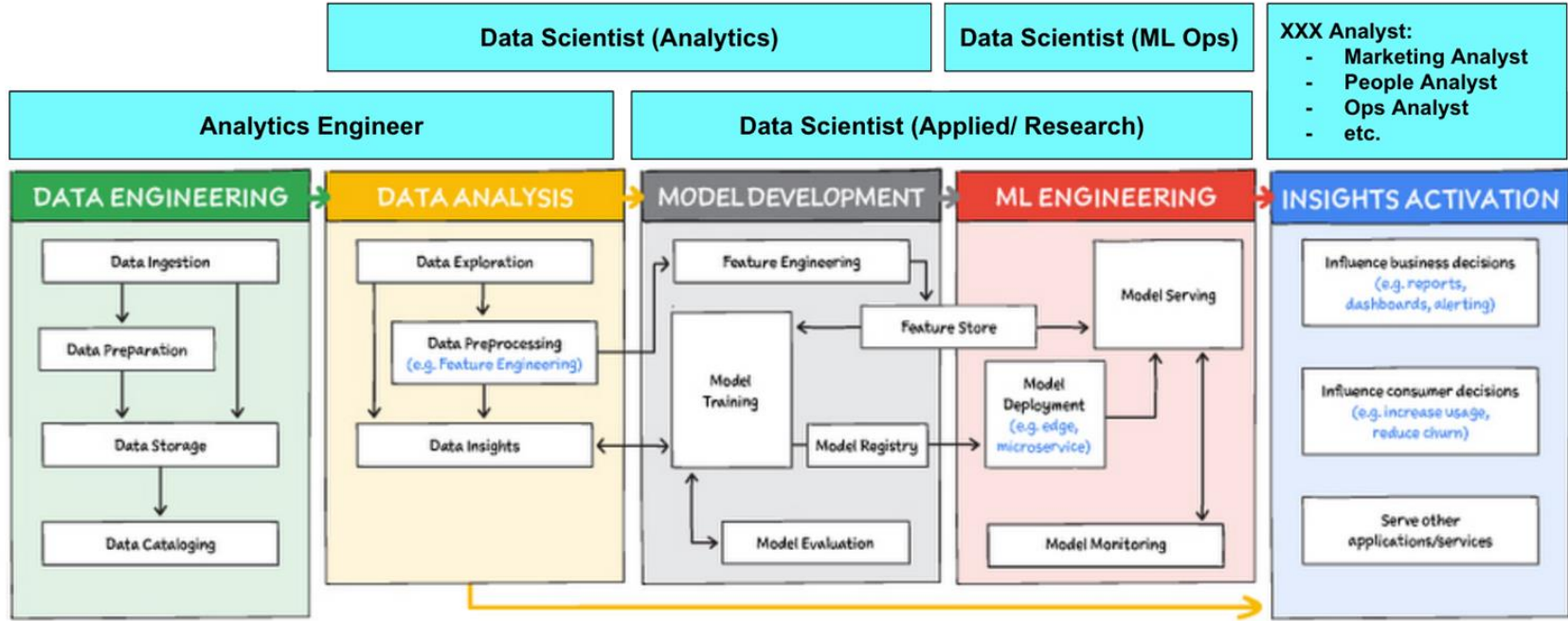


**Our privilege, what happened on US today will be happened on Indonesia by next 3-5 years**

# Current Data-Role Position & Scope



# Future Data Role Position & Scope



Based on my own research, a combination of 2 roles or more will blend to become more specialized





**end.**



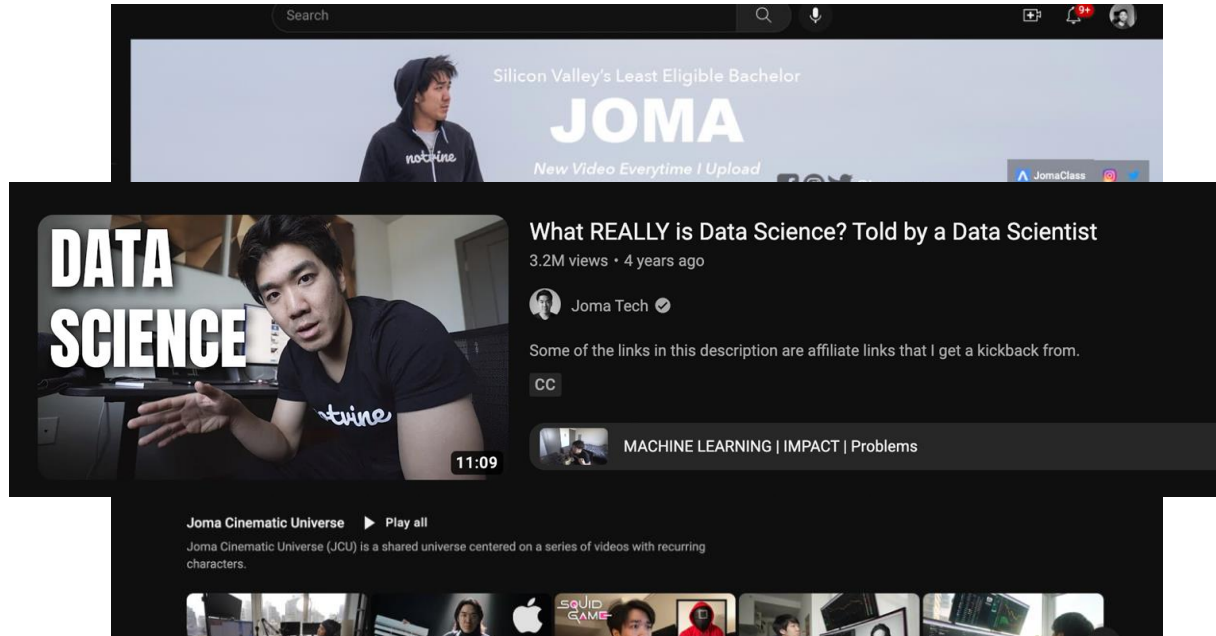


# BONUS - Why I shift into Data Analyst?

(Based on personal exp.)



# Demand of industrial engineer is decreased, while demand data of data role is increased significantly (2018)



Favorite channel on 2018  
(my 3rd year on campus)



2019, very first job of  
data in Indonesia was  
opened

# Bad Experience on my field



Monoton, susah buat explore (SOP Based), Susah buat aktualisasi diri (bermanfaat, berkembang, akselerasi, etc.)

**Then I decide to spare my saving to acquire this 2 course in 2018**  
*(1 of them still not complete yet till' today!)*



**2022 Complete Python  
Bootcamp From Zero to Hero...**

Jose Portilla

69% complete

★★★★★  
Your rating



**Complete MySQL Database  
Course: Go from zero to hero**

ADN Lead, Learning Promo, Top Course

So what's the point?

Ensure your driver **as personal** as possible.

It could become caused by:

- financial,
- more time with family,
- or even want to explore another skillset(?)

and it's still okay.

But make sure it's cause by your problem/ needs~  
Don't drive by **external factors** such as: job trends or another thing.