

Data Science 101

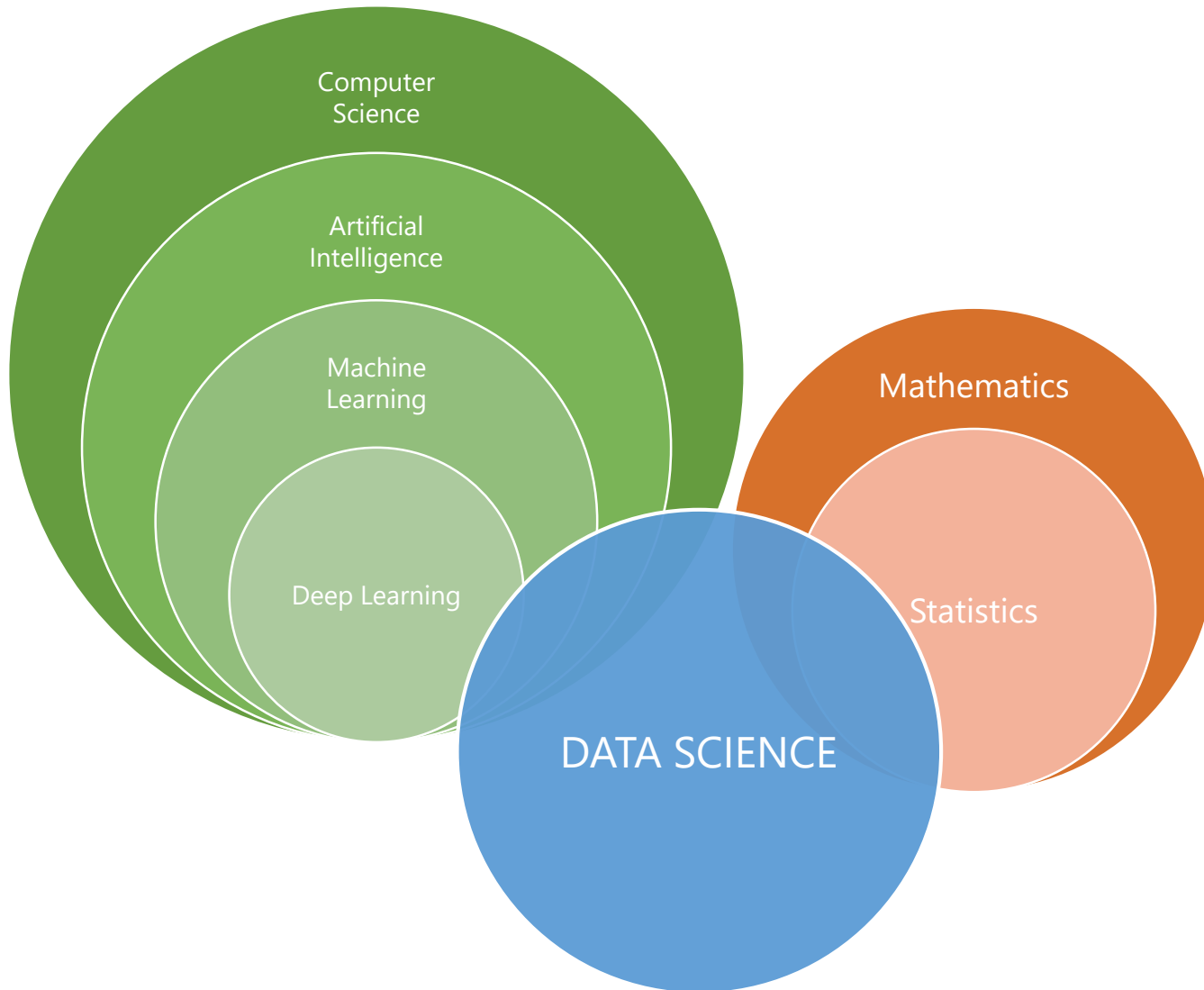
A short brief before you get your hands dirty

Sep 2020

maulidy.rizky@gmail.com



Data Science vs. Artificial Intelligence vs. Machine Learning



Artificial Intelligence

simulation of human intelligence in machines that are programmed to mimic how humans think and act, e.g. self driving cars, robots

Machine Learning

Subset of AI that focus on enabling machines to self-learn and execute any task, e.g. search engine result, personal assistant

Deep Learning

Task-specific algorithms that makes use of neural networks that mimic the structure and function of the human brain

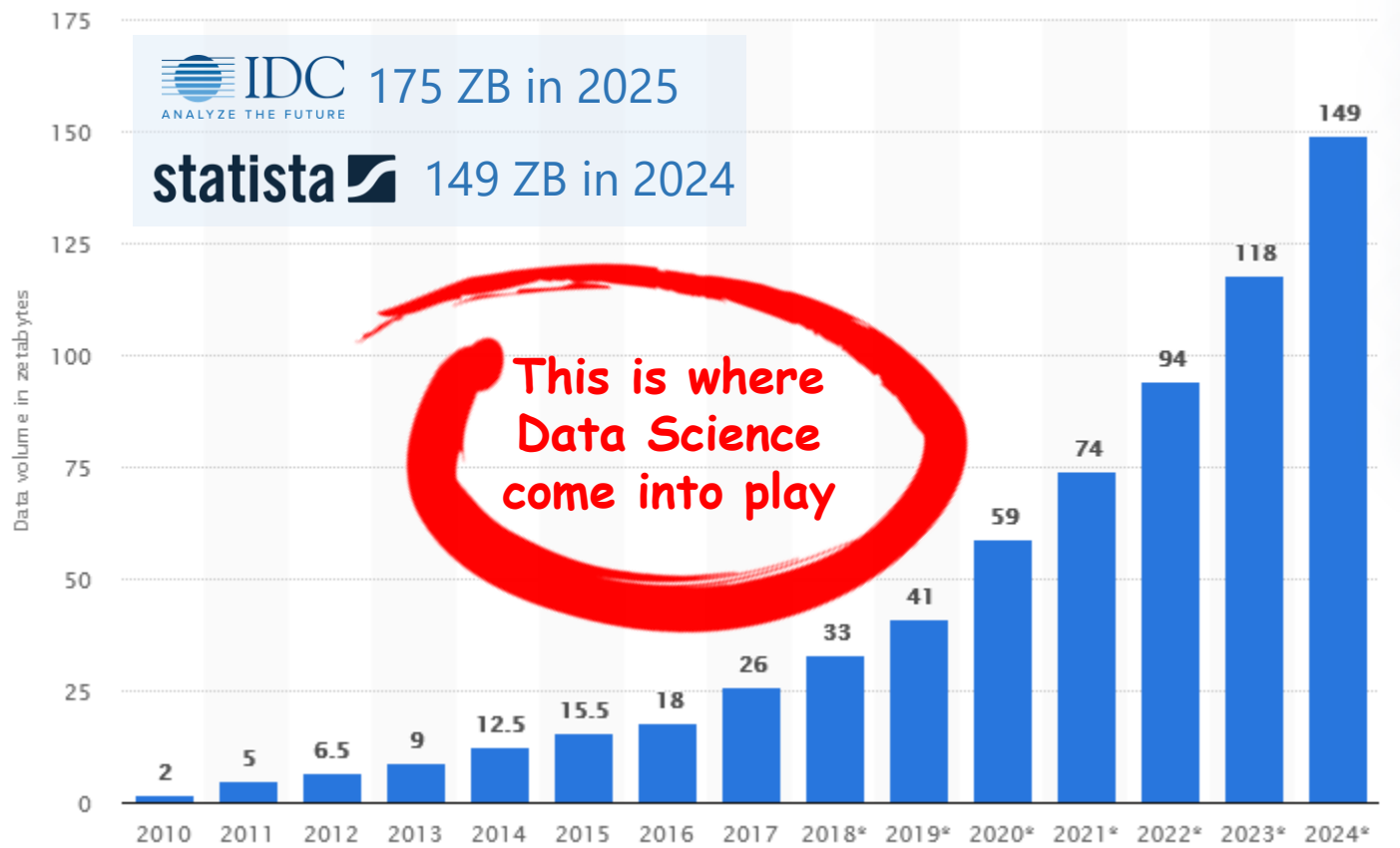
Data Science

Multidisciplinary term for a whole set of tools and techniques of data inference and algorithm development to solve complex analytical problems

BIG DATA – growth has been exponential across the globe



Volume Data Created Worldwide (Zetta Byte)



Talent gap between supply and demand

Kontan.co.id

Serba-serbi data scientist, profesi baru bergaji besar yang jarang dilamar

Senin, 20 Juli 2020 | 12:02 WIB | Reporter: Tiya Widya Septiana



IDN TIMES

Life > Career

11 Feb 20 | 18:01

Mengenal Data Scientist, Profesi Bidang Teknologi yang Tengah Populer

Salah satu pekerjaan yang paling dicari perusahaan!



THE ECONOMIC TIMES

The money making job roles for a new-age engineer

ET Online | Updated: 23 Sep 2020, 12:43 PM IST



1/5 Data scientist

The new age engineers who aspire to evolve into the field of data analysis take up Data Science. Data science is a "concept to unify statistics, data analysis and their related methods" in order to "understand and analyze actual phenomena" with data. An entry-level data scientist earns between Rs 6,00,000-7,00,000 lakhs per annum.

KOMPAS.com

"Fresh Graduate" Data Scientist Bergaji Rp 15 Juta, Ini Syaratnya

Kompas.com - 20/07/2019

Karier sebagai Data Scientist merupakan **profesi dengan masa depan paling cerah** bagi kita yang tertarik bekerja di startup maupun perusahaan berbasis teknologi dan data dalam pengambilan kebijakan dan operasional bisnis (data driven tech company).

Saat ini, profesi sebagai Data Scientist banyak dicari berbagai multinational company dan unicorn startup seperti Gojek, Traveloka, Google, Facebook, Apple, Amazon, Tokopedia, Grab, Shopee, Lazada, JD.ID dan Bukalapak.

KOMPAS.com

7 dari 10 Profesi Paling Bersinar 2022 Butuh "Skill" dari Jurusan Ini - Kompas.com

DQLab.id menyebutkan, ada 3 profesi yang bisa kamu geluti di bidang data science, yakni: Data Scientist dengan kisaran gaji mulai dari Rp 15

Feb 11, 2020



Data Scientist Skill Set

DOMAIN KNOWLEDGE & SOFT SKILLS

- Passionate about the business
- Curious about data
- Influence without authority
- Hacker mindset
- Problem solver
- Strategic, proactive, creative, innovative, and collaborative

COMMUNICAITON & VISUALIZATION

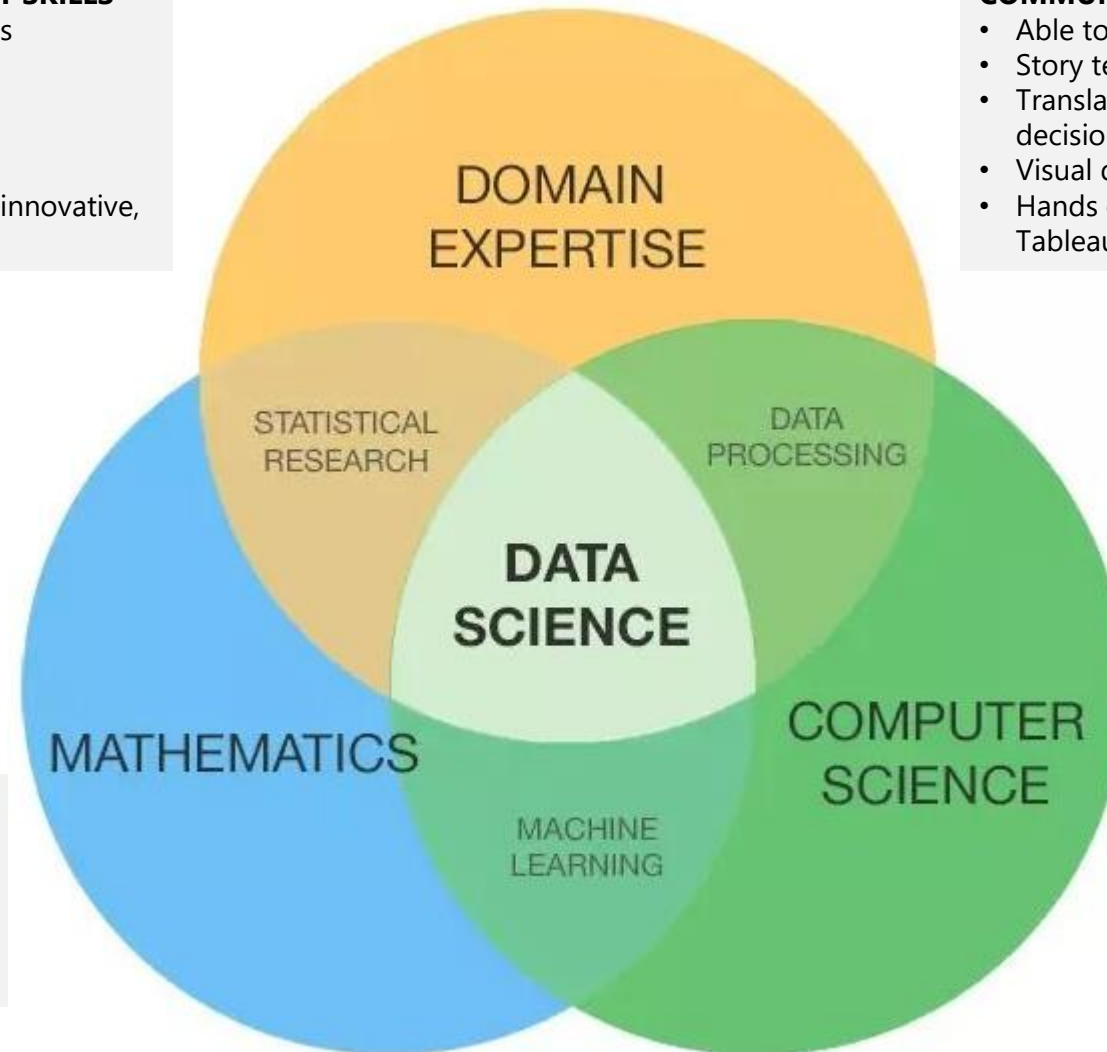
- Able to engage with senior management
- Story telling skills
- Translate data-driven insights into decisions and actions
- Visual design
- Hands on with visualization tools e.g. Tableau, Power BI, etc.

DATA ANALYTICS

- Probe for insight
- Deliver results to Business users
- Uncover meaning in large amount of data (EDA)
- Apply machine learning, algorithm other analytics approaches
- Interpret and visualize result of analysis

MATH & STATISTICS

- Machine Learning
- Statistical Model
- Experiment Design
- Bayesian Inference
- Optimization Model



DATA ENGINEERS

- Process raw data
- Build infrastructure to consolidate and enrich numerous datasets
- Handle large-scale data processing
- Monitor and maintain system

PROGRAMMING & DATABASE

- Computer Science Fundamentals
- Scripting Language (Python)
- Statistical Computing Package (R)
- Database SQL and NoSQL
- Relational Algebra
- Cloud Computing (MapReduce, Hadoop, Hive, AWS)

Master one after another

DATA ENGINEER



CROSS-INFRASTRUCTURE/ANALYTICS

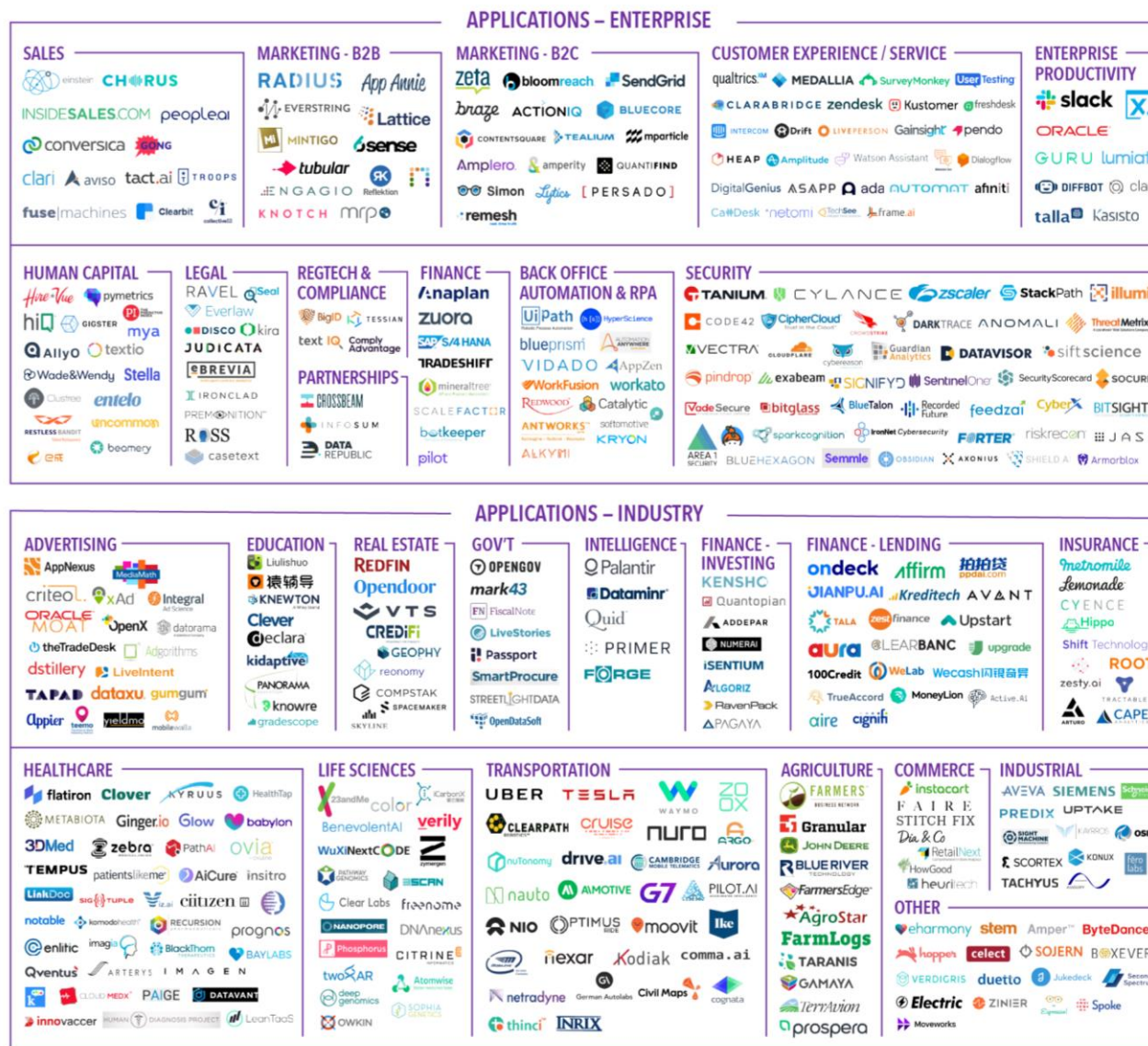


ANALYTICS & MACHINE INTELLIGENCE



DATA ANALYTICS & MODELING

Master one after another



So, are you ready to become one?

Do's

1. Network with Data Science community
2. Participate in Competition, Meetups, & Conferences.
3. Maintain a strong portfolio.
4. Level Up!!

"...Data Scientist: The Sexiest Job of the 21st Century..."



Don'ts

1. Spending too much time on theory
2. Coding too many algorithm from scratch
3. Jumping into advanced topics too quickly
4. Having too much technical jargon in a resume
5. Underestimating the value of domain knowledge
6. Neglecting communication skills

Thank You

maulidy.rizky@gmail.com