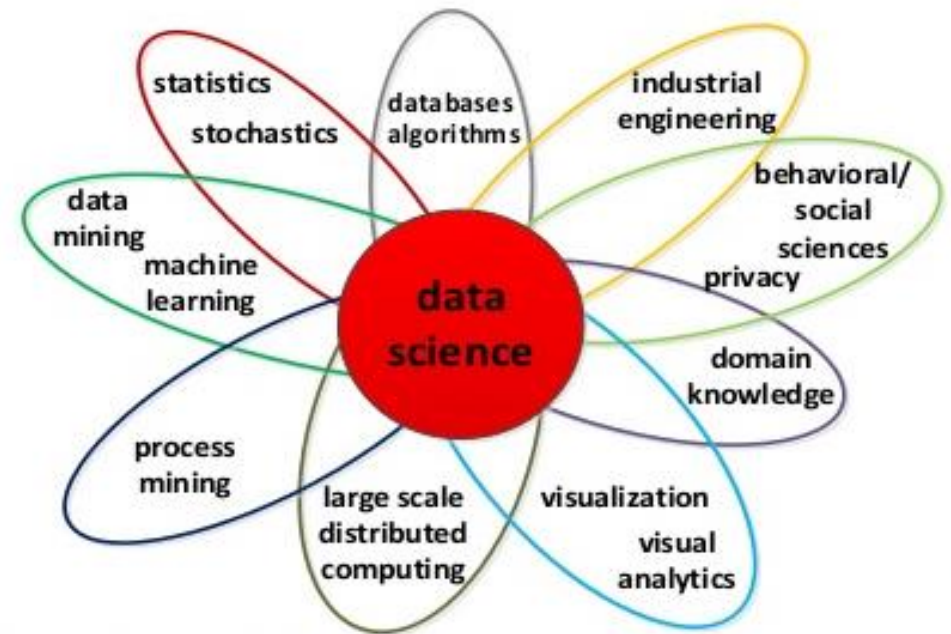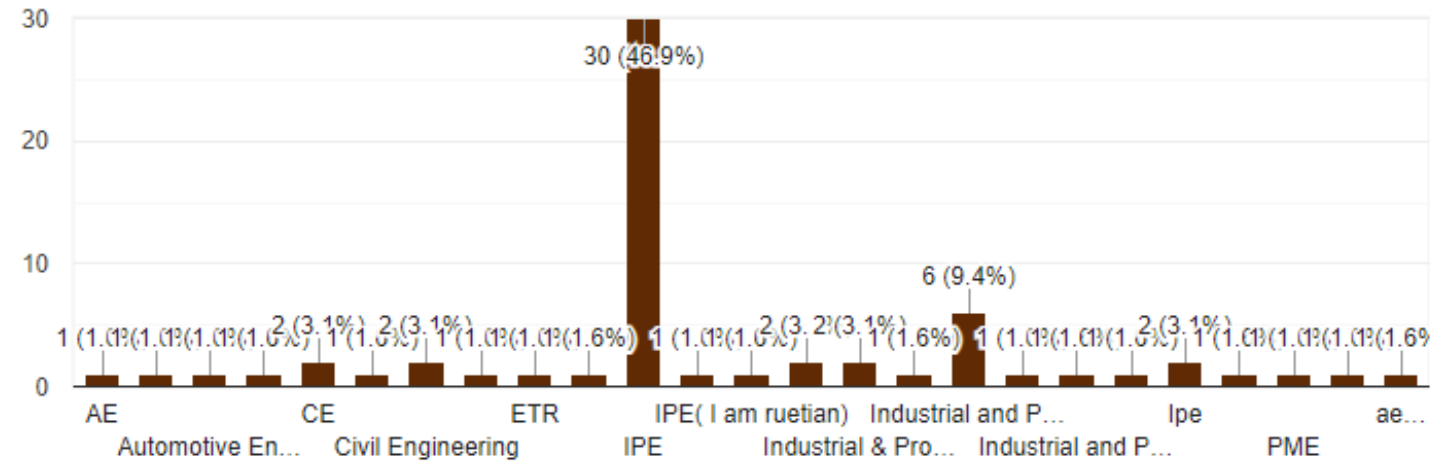# DATA SCIENCE 101

Intro to Data Science

The ability to take data - to be able to understand it, to process it, to extract value from it, to visualize it, to **communicate** it.
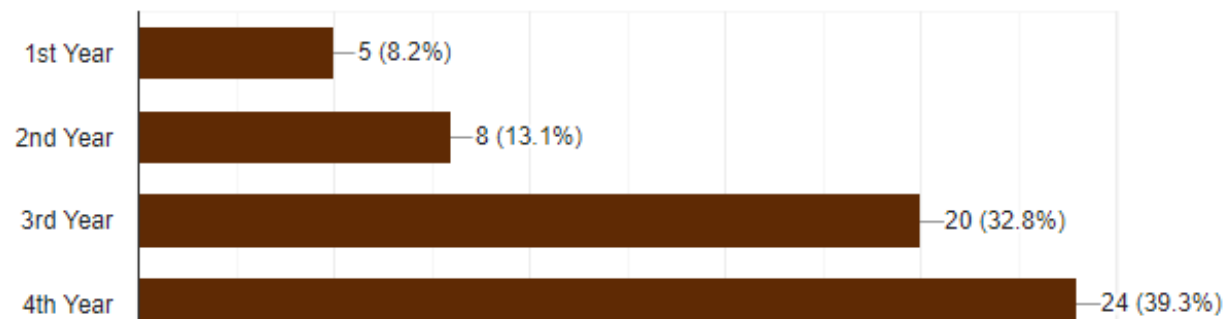
  - Hal Varian, chief economist at Google

Department

64 responses

Year

61 responses

Data Science 2020, Tanmoy Das

Dynamic pricing

Predicting flight delay

Upselling

Cross selling

Predicting lifetime value of customer

Disease prediction

Medication effectiveness

01 TRAVEL

Sentiment analysis

02 MARKETING

Digital marketing

Churn

Discount offering

Demand forecasting

03 HEALTHCARE

04 SOCIAL MEDIA

05 SALES

Self driving cars

Claims prediction

06 AUTOMATION

07 CREDIT & INSURANCE
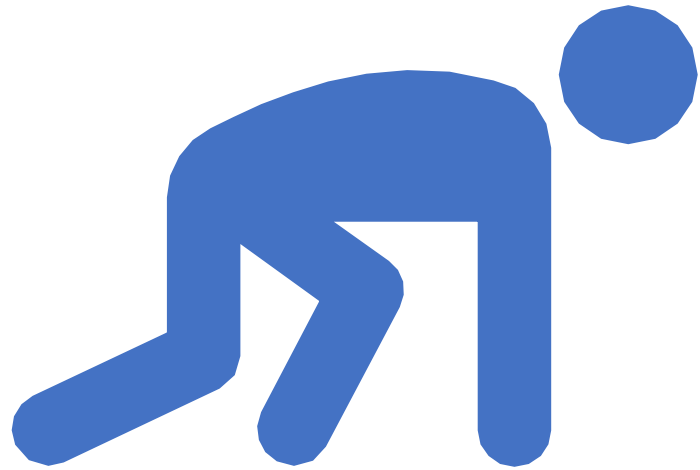
Pilotless aircrafts, drones

Fraud & risk detection

Trainer's bio:
Tanmoy Das

- Ph.D. Researcher in Training, Industrial Engineering, Dalhousie University, Canada.

- Masters in Industrial Engineering, Florida State University, US

- Former Asst professor, MIST

- Experience in Industrial Engineering with a focus in Data Science.

- www.linkedin.com/in/tanmoyie

Showing some issues (e.g. certification) from LinkedIn

Expert in any field was once a beginner

Data

Q&A

Question from audience

- Data Science in Industrial Engineering undergrad program?
    - Show from syllabus of MIST

    - https://www.linkedin.com/posts/tanmoyie_department-of-industrial-and-production-engineering-activity-6709086444037689344-nvcN

Sources to start learn **Data Science/ Python**

- Data Science A-Z from UDEMY
- Youtube playlist of Simplilearn

- Learn Python with Socratica
- Active learning
- Which is the best IDE (Anaconda – spyder, Pycharm) for Python.
- Upwork, people per hour

Q&A

- How to improve data science skills
- Scope For abroad masters and PhD
  - Don't bother about the department offering related course.
- Want to learn the fundamentals of data science
  - https://www.kaggle.com/tanmoyie/how-to-learn-data-science-use-kaggle
  - https://www.linkedin.com/pulse/how-learn-data-science-non-cs-major-tanmoy-das/

RAIN

0, 1, 5, 1, 0,
0, 0, 0, 2, 0,
0, 3, 0, 1

Rainfall

- **What'd be the amount of rainfall tomorrow?**
- **What's the mean rainfall?**
- **Will it rain tomorrow?**

Shouldn't we just delete outliers?

www.linkedin.com/pulse/how-learn-data-science-non-cs-major-tanmoy-das

PRICE OF CAR
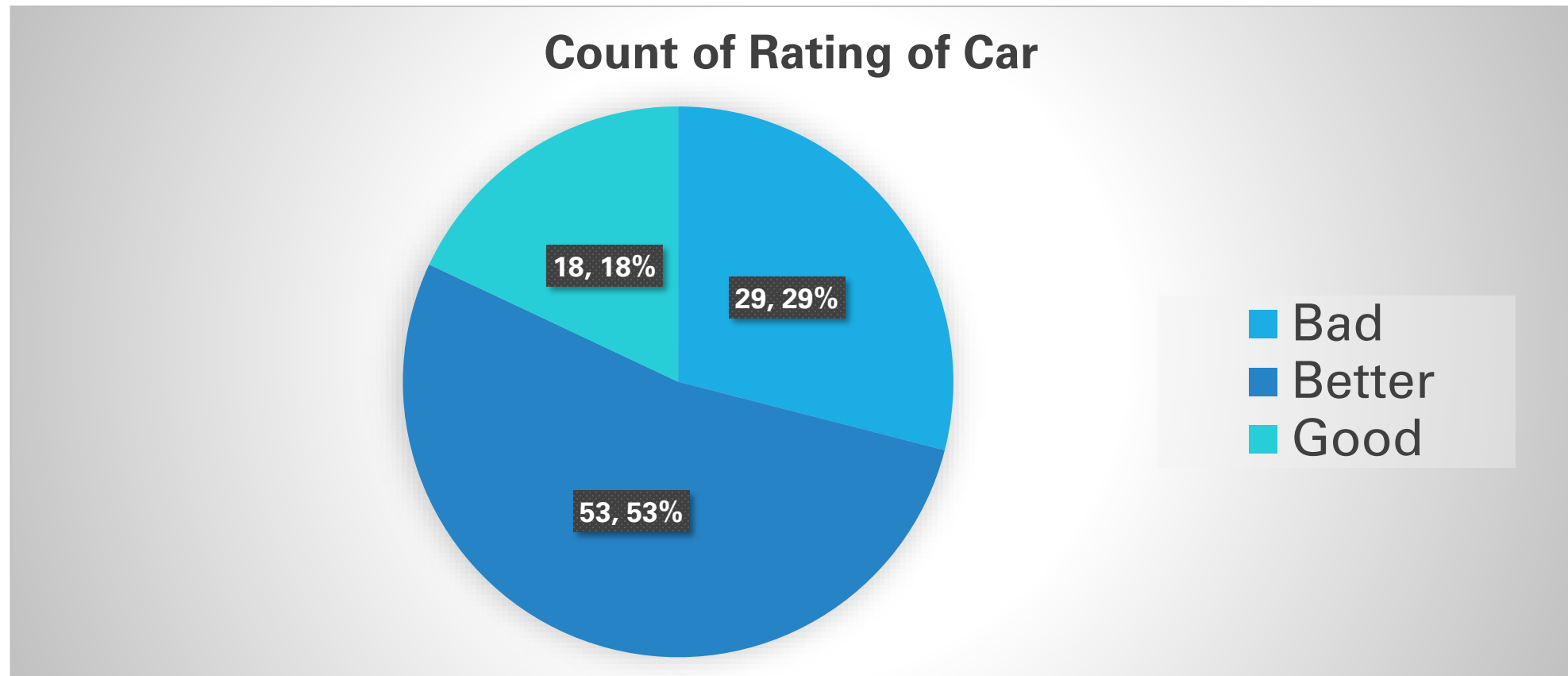
Dataset

Record no.	Color of Car	Rating of Car	Price
1	Red	Good	17000
2	Red	Better	24000
3	Red	Bad	10000
4	Red	Good	20000
5	Red	Better	28000
6	Red	Bad	6000
7	Red	Good	19000
8	Red	Better	25000
9	Red	Bad	11000
10	Red	Good	19000
...	...		...
100	Blue	Good	18000

Pie Chart

Count of Rating of Car

18, 18%

29, 29%

53, 53%

Bad
Better
Good

HomeTask

Why PIE CHART is suggested from RECOMMENDED CHART

But

PIE CHART is NOT suggested when I click PIE CHART manually

in EXCEL

?

I am showing you what I mean!

When we compare quantitative with qualitative

Box plot

Box Plot for Rating vs Price

www.facebook.com/DataIE

Q&A

- Learn about how to improve data science skills
  - Start with small projects
  - Finish some online courses
  - Start random projects even in Upwork

Q&A

- the process to avoid the overfitting a model.
- What are the mistake to avoid?
  - Certification?
- Some good project to start with
- data science ki aitai sobai jante chaise sir?

Section 1: Data Exploration

Scatterplot, Heatmap, storytelling, dashboard
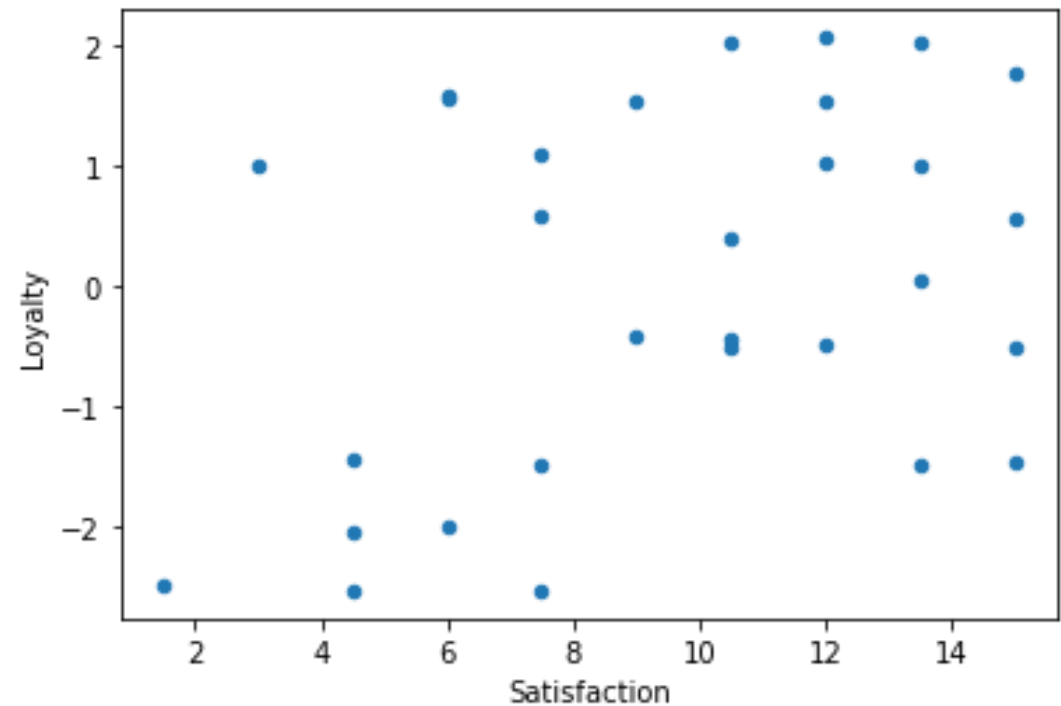
Data Visualization

- Graphical representation of information and **data**.

- By using visual elements like charts, graphs, and maps, **data visualization** tools provide an accessible way to see and understand trends, outliers, and patterns in **data**
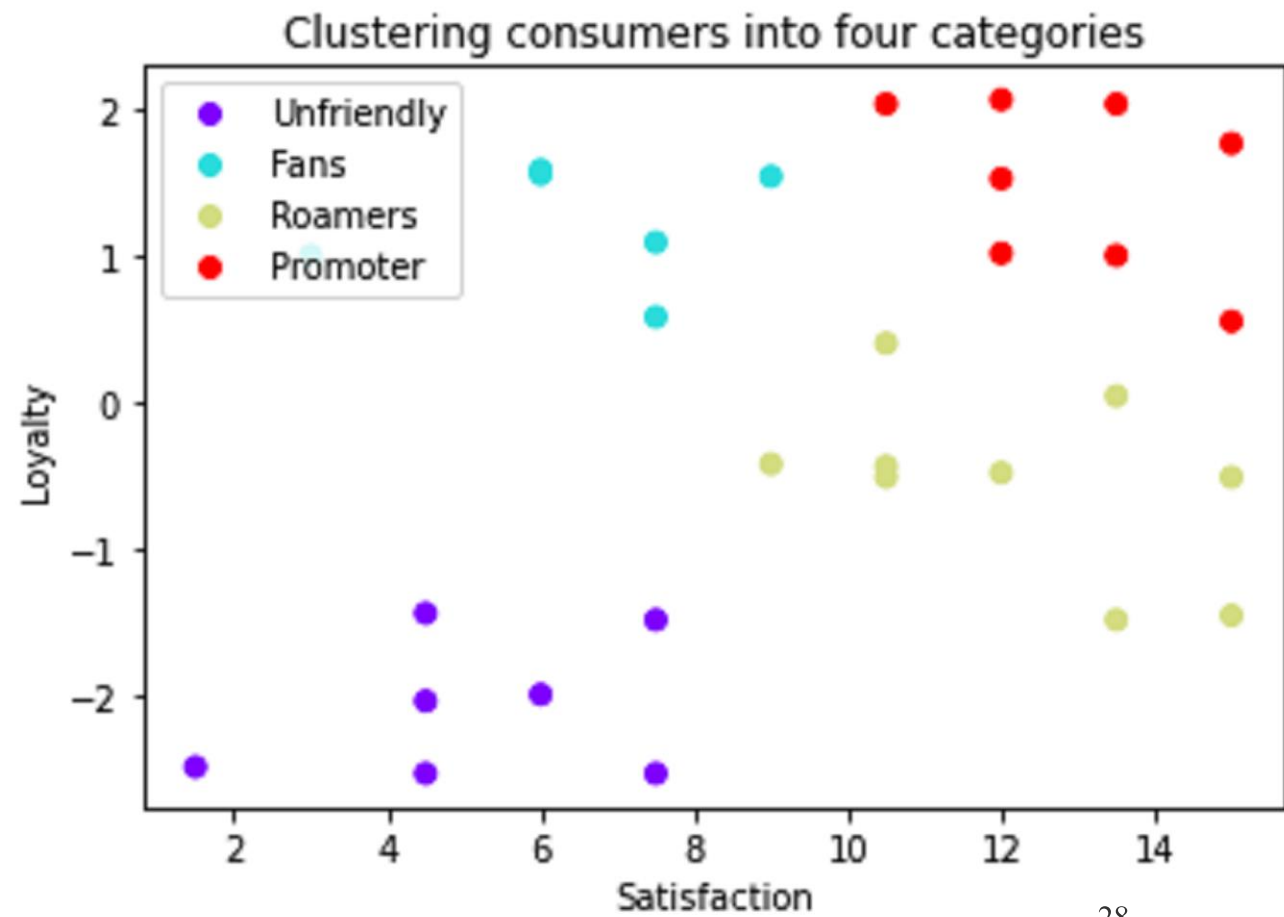
Scatterplot: Satisfaction vs loyalty

- Audience will write the Python program from scratch

- Let's draw this Scatter plot

Satisfaction	Loyalty
6	-1.995
9	-0.42
7.5	-1.485
10.5	-0.435
6	1.59
...	...

www.kaggle.com/tanmoyie/consumer-cluster

Clustering consumers into four categories

SOME SUGGESTIONS

DO I NEED PROGRAMMING?

Python or R?

Online presence of Tanmoy Das

www.**tanmoyie**.com

www.youtube.com/c/**Tanmoyle**

https://github.com/**tanmoyie**

www.linkedin.com/in/**tanmoyie**

www.kaggle.com/**tanmoyie**

www.facebook.com/**tanmoyie**

www.facebook.com/dataie