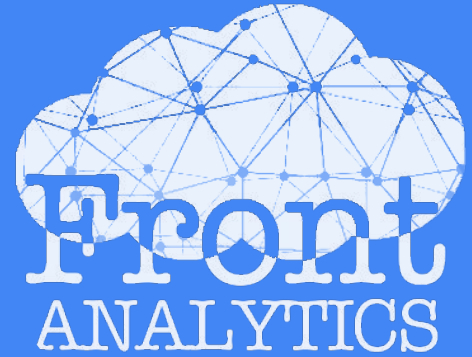# What is a data analyst?

Pretty much everyone today deals with data in some form, but data analysts actually know what to do with it.

Ultimately, the goal in doing data analysis is to lead to **making better decisions.**
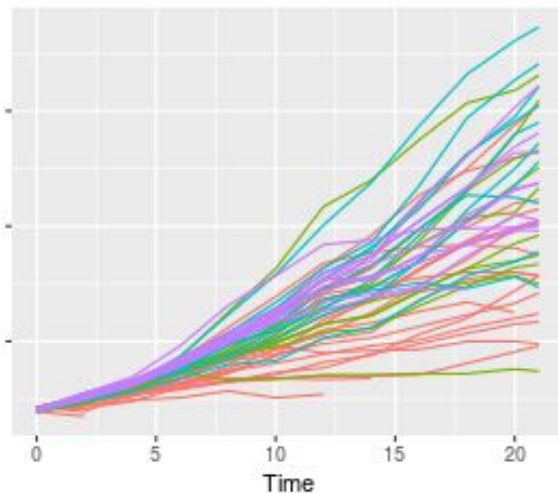
## What is a data analyst?

They can take this -->

| | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|
| | pop_2006 | lga | state | zone | area_sq_km | surveying_ef | pop_density | unique_lga | longitude |
| 1 | 100180 | Abadam | Borno | Northeast | 3967.05423 | Others | 25.2529948 | borno_abada | 13.325674 |
| 2 | 58444 | Abaji | FCT | North-Centra | 992.361242 | 113 | 58.8938761 | fct_abaji | 6.8534137 |
| 3 | 139090 | Abak | Akwa Ibom | South-South | 189.984563 | Others | 732.112113 | akwa_ibom_ | 7.772279 |
| 4 | 151723 | Abakaliki | Ebonyi | Southeast | 584.055167 | Others | 259.775118 | ebonyi_abak | 8.2198818 |
| 5 | 107488 | Aba North | Abia | Southeast | 22.7750611 | Others | 4719.54826 | abia_aba_no | 7.3716436 |
| 6 | 423852 | Aba South | Abia | Southeast | 49.1665418 | Others | 8620.74053 | abia_aba_so | 7.3506500 |
| 7 | 201329 | Abeokuta No | Ogun | Southwest | 808.831493 | Others | 248.913404 | ogun_abeoki | 3.173587 |
| 8 | 250278 | Abeokuta So | Ogun | Southwest | 71.4715348 | Others | 3501.78572 | ogun_abeoki | 3.3569435 |
| 9 | 144802 | Abi | Cross River | South-South | 281.772825 | Others | 513.896257 | cross_river_i | 8.026689 |
| 10 | 195652 | Aboh Mbaise | Imo | Southeast | 184.48387 | Others | 1060.53716 | imo_aboh_m | 7.2522475 |
| 11 | 282988 | Abua Odual | Rivers | South-South | 704.338115 | Others | 401.778626 | rivers_abua_ | 6.5620963 |
| 12 | 202194 | Adavi | Kogi | North-Centra | 718.503598 | Others | 281.409864 | kogi_adavi | 6.4445904 |
| 13 | 308621 | Ado-Ekiti | Ekiti | Southwest | 293.6513 | Others | 1050.97781 | ekiti_ado_ek | 5.2799745 |
| 14 | 526565 | Ado-Odo/Oti | Ogun | Southwest | 878.916456 | 148 | 599.106998 | ogun_ado_o | 3.0846251 |
| 15 | 134173 | Afijio | Oyo | Southwest | 722.693666 | Others | 185.656809 | oyo_afijio | 3.9012550 |
| 16 | 156611 | Afikpo North | Ebonyi | Southeast | 240.157467 | Others | 652.117972 | ebonyi_afikp | 7.923396 |
| 17 | 157072 | Afikpo South | Ebonyi | Southeast | 377.675196 | 113 | 415.891755 | ebonyi_afikp | 7.8136373 |
| 18 | 132907 | Agaie | Niger | North-Centra | 1904.35471 | Others | 69.7910949 | niger_agaie | 6.4404592 |
| 19 | 115523 | Agatu | Benue | North-Centra | 1014.60843 | Others | 113.859689 | benue_agatu | 7.8821583 |
| 20 | 57413 | Agwara | Niger | North-Centra | 1539.669 | 148 | 37.2891837 | niger_agwara | 4.5276408 |
| 21 | 459939 | Agege | Lagos | Southwest | 11.214557 | Others | 41012.6765 | lagos_agege | 3.3160026 |
| 22 | 370172 | Aguata | Anambra | Southeast | 195.102574 | Others | 1897.31992 | anambra_ag | 7.088043 |
| 23 | 170902 | Ahiazu-Mbai | Imo | Southeast | 113.716283 | Others | 1502.88063 | imo_ahiazu_ | 7.2641819 |
| 24 | 166747 | Ahoada East | Rivers | South-South | 341.173834 | Others | 488.744984 | rivers_ahoad | 6.641019 |
| 25 | 249425 | Ahoada Wes | Rivers | South-South | 403.45939 | Others | 618.215875 | rivers_ahoad | 6.5166056 |
| 26 | 122321 | Ajaokuta | Kogi | North-Centra | 1362.39948 | 113 | 89.7835045 | kogi_ajaokut | 6.596390 |
| 27 | 684105 | Ajeromi-Ifeld | Lagos | Southwest | 12.3493909 | 148 | 55395.8493 | lagos_ajeron | 3.337481 |
| 28 | 174137 | Ajingi | Kano | Northwest | 713.799255 | Others | 243.957946 | kano_ajingi | 9.0690927 |
| 29 | 151125 | Akamkpa | Cross River | South-South | 5001.71991 | Others | 30.2146067 | cross_river_i | 8.5339800 |
| 30 | 211359 | Akinyele | Oyo | Southwest | 518.870311 | Others | 407.344563 | oyo_akinyele | 3.9313943 |

## What is a data analyst?
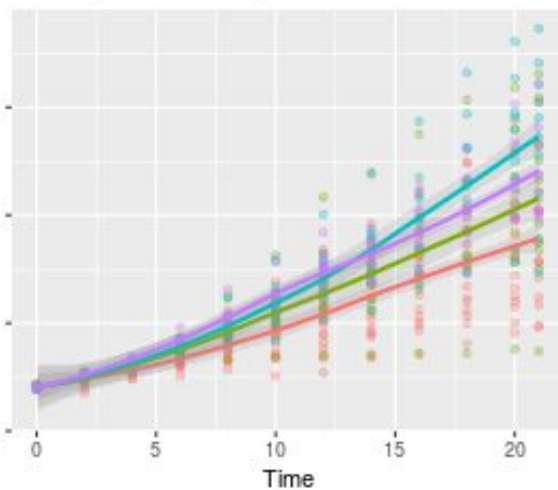
And turn it into this -->
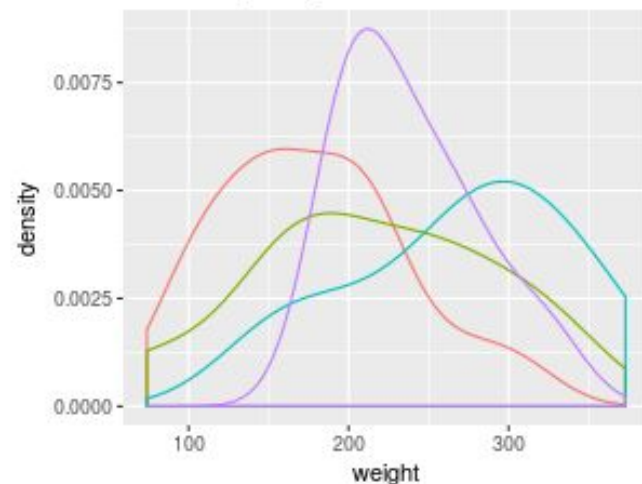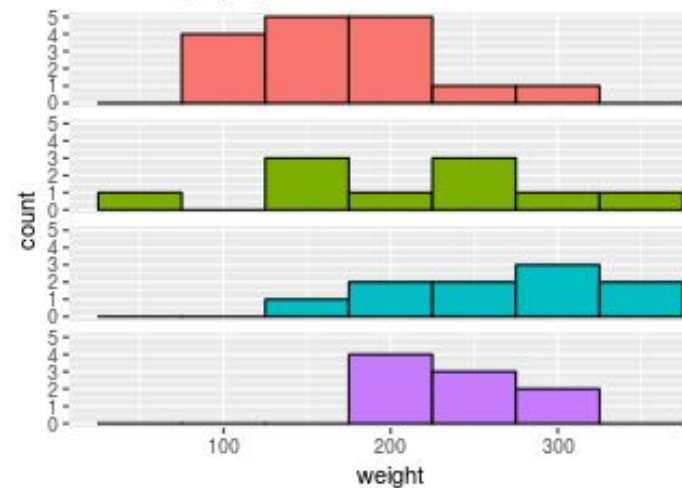
## What is a data analyst?
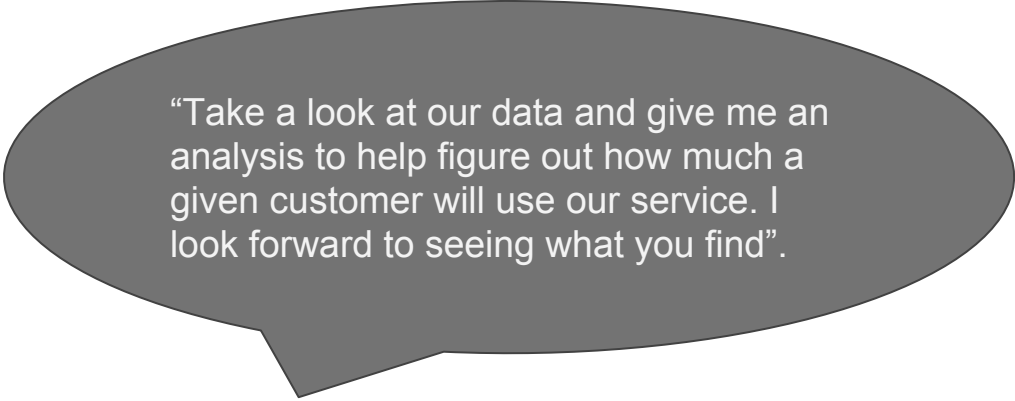
They can take this -->

"Take a look at our data and give me an analysis to help figure out how much a given customer will use our service. I look forward to seeing what you find".

- Your boss

## What is a data analyst?

And go through this process -->

1. **Define the Problem - What is the job to be done?**
   Figure out *"How much given customer will use our service"*.
2. **Break it down into smaller pieces**
   a. What is to be predicted? Service usage
   b. A model could be formed from looking at service usage historical data from our customer database.
   c. A regression model, learned off our dataset, would create a prediction for unique to each customer.
3. **Analyze**
   Obtain, scrub, explore, model and produce a model that predicts customer usage.
4. **Recommend**
   **"**With these assumptions...I recommend you…"

# Data analyst domain

Microsoft Excel

SQL skills

Some Statistics

Reporting tools (IBM Cognos, Tableau)

Communicating results

Some programming

Skills

**O**

**S**

**E**

**M**

**N**

Skills

**O**btain
**S**crub
**E**xplore
**M**odel
i**N**terpret
+
Communicate

## Skills ⟶ Tools

| Skills | Tools |
|---|---|
| **O**btain | Data acquisition |
| **S**crub | Data cleaning & exploring |
| **E**xplore | Data visualization |
| **M**odel | Statistics & Machine learning |
| i**N**terpret | |
| + | Domain expertise |
| Communicate | Dashboards |

# 4 Secrets to Hiring a
# Data Analyst

## What to Look For
In hiring the right candidate for the job

**1 They can tell a story**
Can both interpret data and communicate the importance of their findings to decision-makers.

**2 They have a backbone**
Unafraid to present true facts and capable of defending their recommendations logically.

**3 They can integrate**
Able to work with all corners of organizatons, especially user experience and tech teams.

**4 They can optimize**
Ability to set strategies & priorities, and able to take action when something is performing at a lower than optimal level.

Being successful as an analyst isn't all about the technical skills though

Succeeding as a data analyst also means you have personality traits like...

# Qualities of a data analyst

Curious

Resourceful

Grit

# Qualities of a data analyst

Continuous drive to learn and grow

Resourceful

Grit

# Qualities of a data analyst

Continuous drive to learn and grow

Find new angles and new ideas

Grit

# Qualities of a data analyst

Continuous drive to learn and grow

Find new angles and new ideas

Able to overcome obstacles

# Qualities of a data analyst

Continuous drive to learn and grow

Find new angles and new ideas

Able to overcome obstacles

Honest

Humble

Communicator

# Qualities of a data analyst

Continuous drive to learn and grow

Find new angles and new ideas

Able to overcome obstacles

If you torture the data long enough..

Humble

Communicator

# Qualities of a data analyst

Continuous drive to learn and grow

Find new angles and new ideas

Able to overcome obstacles

If you torture the data long enough..

Ego stunts growth

Communicator

# Qualities of a data analyst

Continuous drive to learn and grow

Find new angles and new ideas

Able to overcome obstacles

If you torture the data long enough..

Ego stunts growth

It don't mean a thing if it ain't...

...communicated effectively

# Tool Selection

Functionality, generalizability, and comfort of use

Awareness of options and curveballs

# Tools

Python where possible

# Tools

Python, Jupyter notebooks, git / Github

# Tools

Python, Jupyter notebooks, git / Github

Pandas, BeautifulSoup, SQL, flat-files

HTML, CSS, Jinja, cron

matplotlib, Seaborn, PostgreSQL, MongoDB

Statsmodels, NLTK, Plotly

Google!

Must Overcome:

- Imposter Syndrome

- Perfectionism



IF YOU CAN FIND A PATH WITH NO OBSTACLES, IT PROBABLY DOESN'T LEAD ANYWHERE.

FRANK A. CLARK

# For the next 10 weeks you'll have…

Peer and instructor support

Focused time

Career services support

Weekly challenges

Opportunities to share what you know with Investigation Presentations

A lot of fun