

# Avoid Hiring Data Ninja Rockstars

## How to build effective data teams

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# Who works with data?

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Of course, data scientists!



# Who works with data?

Of course, data scientists! (not only)



# The reality is ...

Nobody should or even can do everything

Responsibilities should be distributed

# Example project

Setup: Large fashion e-com  
*Trasos*

Task: recommender system

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Just finished v1 of the new recommender system I'm building. Results so far are incredibly promising

CUSTOMERS WHO BOUGHT THIS ITEM



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# What the business says

- Increase retention
- Reduce cost of acquisition

# What does the business mean?

Clients be like



# Business outcomes

- It should be easier to convert non-customers to customers
- Customers should return sooner

# Technical constraints

- Lots of simple events (clicks, scrolls, interactions)
- Backend is in Scala, but Data Science team works with Python



# Approach

1. Define business questions
2. Define required data
3. Prepare data
4. Research models
5. Productionise model
6. Monitor

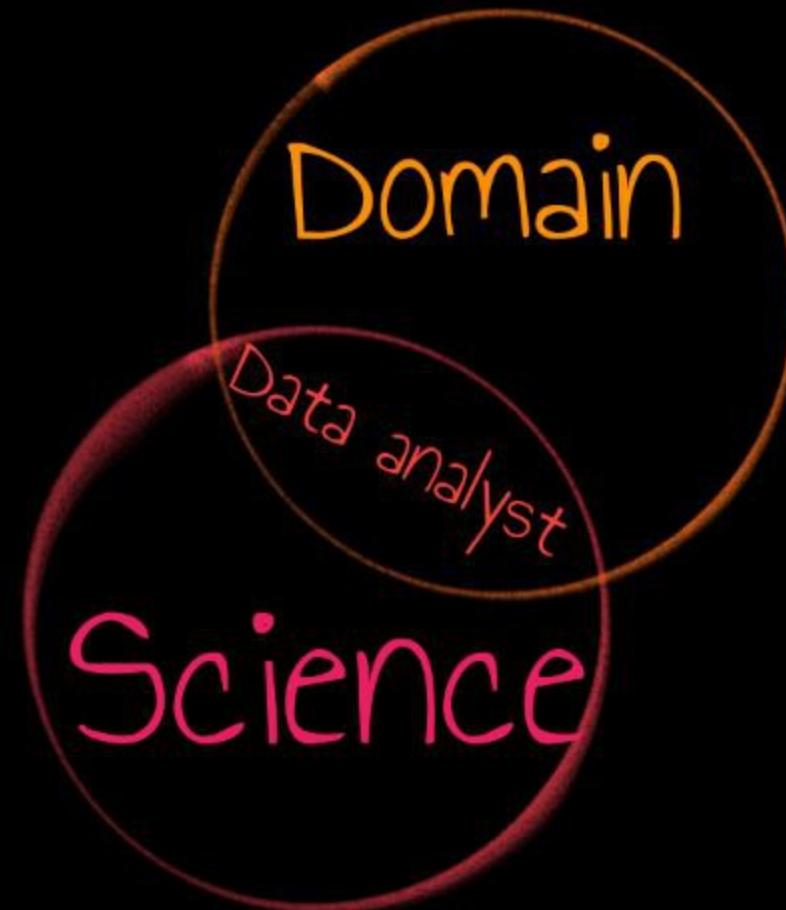
# Data skills



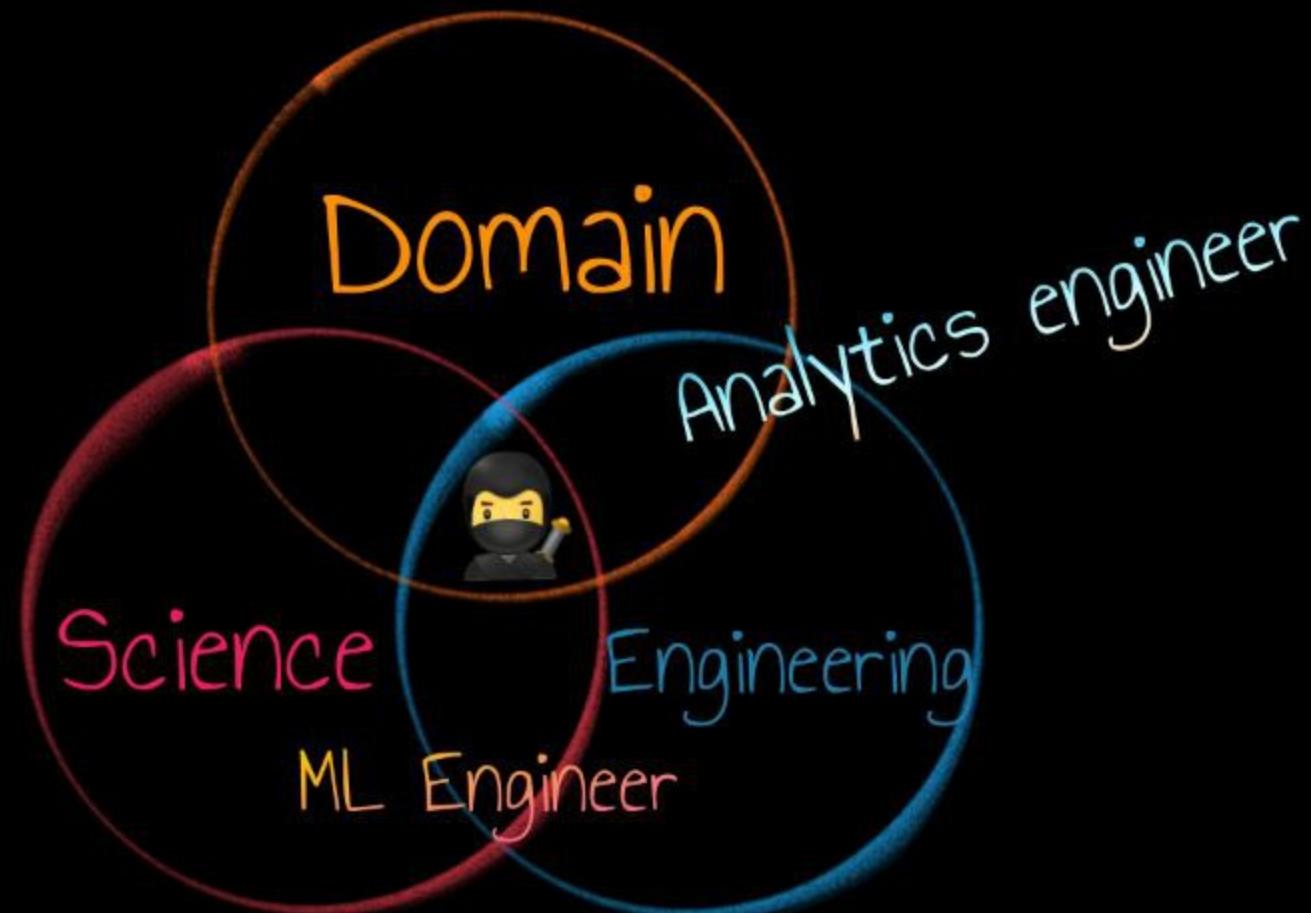
Analysts

# Data skills

Data scientist



# Data skills



# The three roles

# Data Scientists

The research folk

# Data scientist skills

- Data + science!
- Automate manual processes
- Build data products
- Statistics
- Machine/deep learning
- Programming + data wrangling
- Data visualisation

# Data scientist responsibilities

- Translate business question
- Research available data and make shortlist
- Request sample from data engineering

# Data scientist responsibilities

- Feature engineering
- Iteratively find suitable model MVP
- Handover of model for productionisation
- Define model metrics, request monitoring

# BI Analysts

The data communication folk

# BI analyst skills

- Deep understanding of business
- Knowledge of what data answers business questions
- Data communication and visualisation
- Data wrangling
- Data exploration and analysis

# BI analyst responsibilities

- Understand feasibility of project
- Define metrics for measuring business success
- Request sample from data engineering

# BI analyst responsibilities

- Request final pipelines from DE for reporting
- Creating dashboards for business metrics
- Adhoc reporting

# Data Engineers

The big data folk

# Data engineer skills

- Data lifecycle
- Strong engineering skills
- Monitoring data pipelines
- Manage data needs for multiple teams
- (Sometimes) responsible for ML models in production

# Data engineer responsibilities

- Understand whether the data will support the project
- Tracking down data
- Extracting samples

# Data engineer responsibilities

- Build data pipelines for project
- (Potentially) implement model
- Monitor data

# Overlaps: Productionisation

- What is the definition of done for the finished model?
- Who is responsible when things go wrong?

# Summary

1. There are lots of responsibilities around data
2. These responsibilities are broad
3. You need to split your work between 3 dimensions
4. Hire team accordingly



# Thank you!

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