MeasureCamp

The rise of analytics engineering

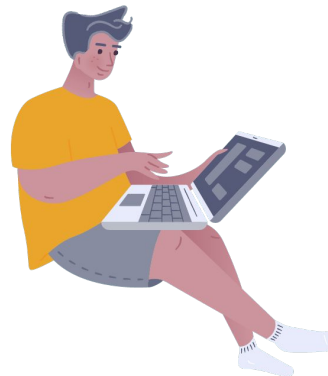Rifat Majumder ● 26th of October, 2019

Rif

Analytics Engineer at Airtasker

Varied background with last few years in analyst, project and product management

Previously at CSIRO/Data61

Leaving data engineering behind

Trends
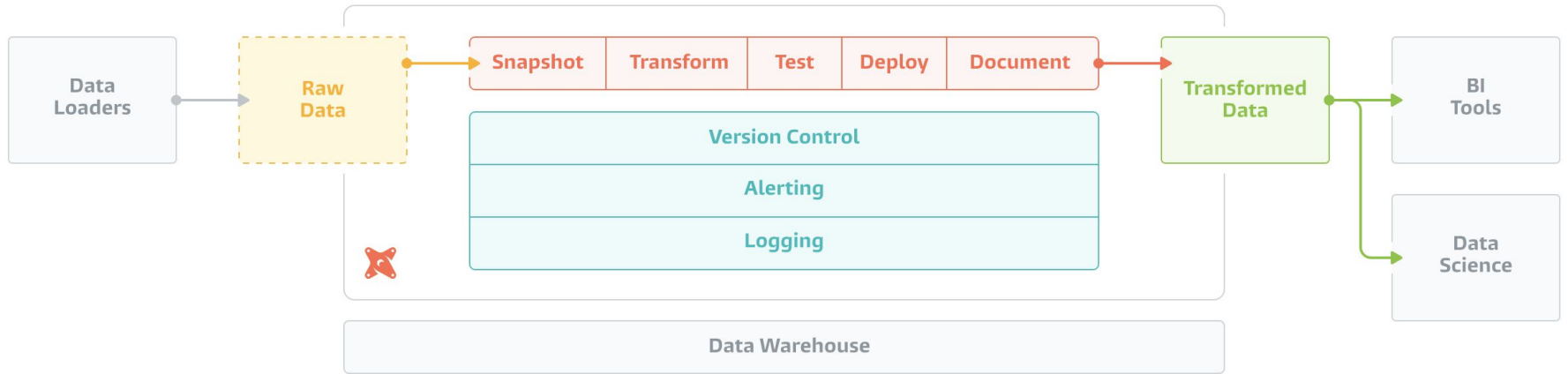
New tools automating away mundane data engineering tasks

Analysts now have tools they can leverage to fast track data to insights
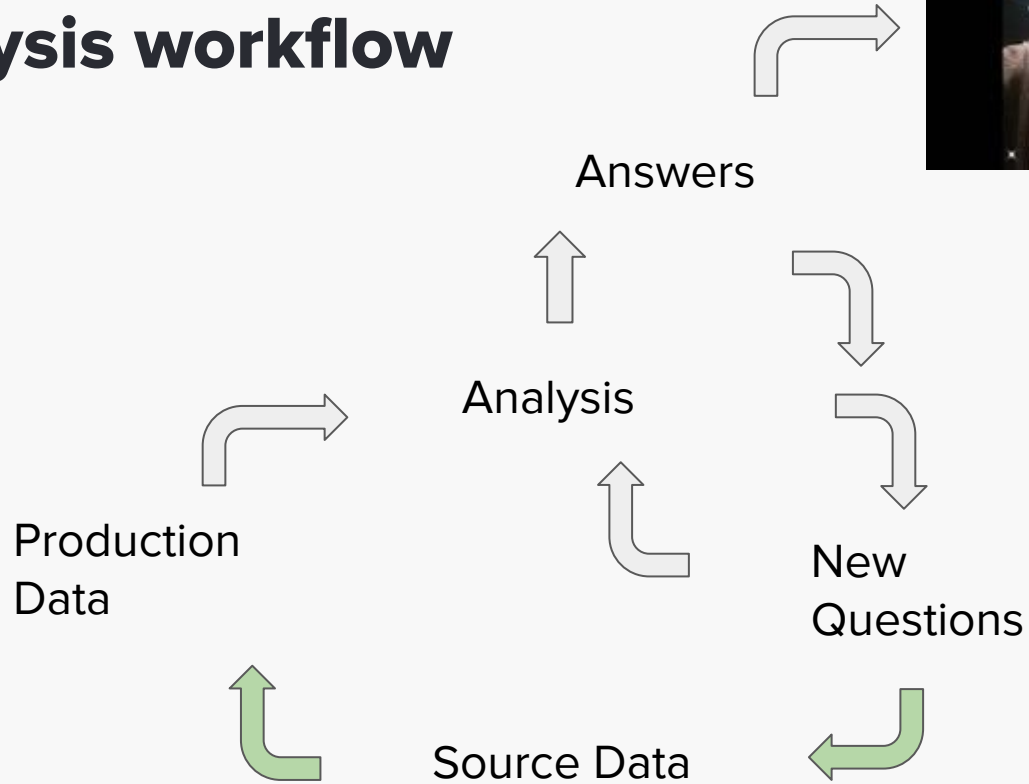
Trends

Trends

These trends help data teams move much **faster** and improve **quality**

Analysis workflow

Answers

Analysis

Production
Data

New
Questions

Source Data

Implications

Need to revisit the **composition** of data teams

Data engineering focuses on **data infrastructure**

Analytics engineering focuses on creating **actionable data**

Both roles act as **force multipliers**

Data engineering ➡ Analytics engineering ➡ Data Analyst and Business Users

10 x　　　　　　　　　　　**10 x**

Implications

Need to revisit the **composition** of data teams

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Modern Data Team

Data Engineers	Analytics Engineers	Data Analysts
- Build custom data ingestion integrations - Manage overall pipeline orchestration - Develop and deploy machine learning endpoints - Build and maintain the data platform - Data warehouse performance optimization	- Provide clean, transformed data ready for analysis - Apply software engineering practices to analytics code (ex: version control, testing, continuous integration) - Maintain data documentation & definitions - Train business users on how to use a data platform data visualization tools	- Deep insights work (ex: Why did churn spike last month? What are the best acquisition channels?) - Work with business users to understand data requirements - Build critical dashboards - Forecasting

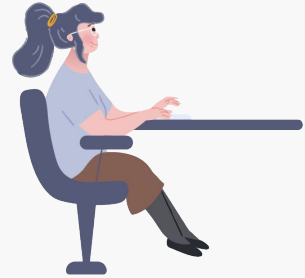dbt blog - https://blog.getdbt.com/what-is-an-analytics-engineer/

Analytics engineering is the **data transformation** work that happens between loading data into your warehouse and analyzing it.

- dbt

The analytics engineer role

- Strategic partner for business and its various functions

- Technical ownership from the data warehouse through to BI reports and dashboards

- Leverages software engineering practices and tooling approaches

Analytics engineer roles in the wild - Netflix

You are...

- A **strong communicator** who can own and deepen direct relationships with our business partners
- A senior analytics professional with a proven track record of **data wrangling, analysis, reporting & visualization**
- Comfortable with **ambiguity**; able to thrive with minimal oversight and process
- An expert in a **data-oriented programming language** (e.g. SQL, Python, R, Scala, etc.)

Analytics engineer roles in the wild - Pymetrics

Requirements…

- Experience implementing best-practices for data modelling, especially with regards to **dimensional modelling** for business intelligence. Experience with DBT is a plus.
- Experience with SQL-first, **self-service** visualization tools such as Mode Analytics, Tableau, Looker
- High level of comfort with **SQL** and proficiency in **Python** and its scientific libraries (pandas, scipy etc.)
- Experience with git and **git-based workflows**

Analytics engineer skills

- Software engineering practices (maintainable code, testing, CI/CD)
- SQL patterns
- Data oriented language (e.g. Python, R, Scala)
- Git and bash
- Database fundamentals and performance optimisation
- Data modelling (or dimensional modelling)
- Visual data communication
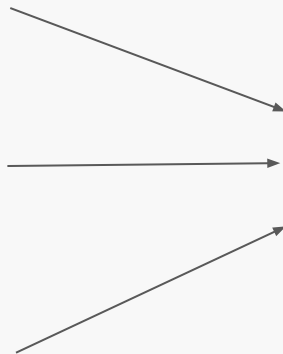- Business analysis

Where to find analytics engineers

Data Analyst

Data Warehouse
Developer

Data Engineer

Analytics Engineer

Analytics Team Strategies

- Partner with business areas and help them understand their data
- Single source of truth and data governance
- Empower business users to explore data
- Processes that scale

What the future holds

- Analysts being able to leverage all the data

- Faster cycles - from raw data to insight

- Improved trust in data

Wrap Up

- You may not need data engineering at first - check to see if you can leverage new tools and frameworks

- Still pay attention to the basics (data governance, communication, training, culture)

- Building a culture of partnership - don't work in silos

Links

Airtribe Medium Blog - https://medium.com/airtribe

Locally Optimistic Blog - https://www.locallyoptimistic.com/

dbt Blog - https://blog.getdbt.com/

Connect

My LinkedIn - https://www.linkedin.com/in/rifat-majumder/