



Dispatcher

Tracking
Gap

Design

Process

Outlook

Where is My Shipment?

Your DHL Express shipments

Waybill [REDACTED]

Scheduled Delivery Today by End of Day

Status WITH DELIVERY COURIER
Thursday, November 24, 2016 at 08:18

Sign up for shipment notifications

Origin Service Area EINDHOVEN - WAALWIJK - NETHERLANDS, THE

Destination Service Area BIRMINGHAM [REDACTED]

Pieces 1

Thursday, November 24, 2016		Time & Location
8	With delivery courier	08:18 BIRMINGHAM - UK
7	Arrived at Delivery Facility in BIRMINGHAM - UK	07:13 BIRMINGHAM - UK
6	Departed Facility in EAST MIDLANDS - UK	06:13 EAST MIDLANDS - UK
5	Processed at EAST MIDLANDS - UK	04:54 EAST MIDLANDS - UK
4	Arrived at Sort Facility EAST MIDLANDS - UK	02:47 EAST MIDLANDS - UK
3	Departed Facility in AMSTERDAM - NETHERLANDS, THE	02:44 AMSTERDAM - NETHERLANDS, THE
Wednesday, November 23, 2016		Time & Location
2	Processed at AMSTERDAM - NETHERLANDS, THE	17:24 AMSTERDAM - NETHERLANDS, THE
Saturday, November 19, 2016		Time & Location
1	Shipment information received	11:49 EINDHOVEN - NETHERLANDS, THE

Tracking Gap

Data Science Solution

MIDLANDS - UK

UK

5

Processed at EAST MIDLANDS -
UK

04:54 EAST MIDLANDS -
UK

4

Arrived at Sort Facility EAST
MIDLANDS - UK

02:47 EAST MIDLANDS -
UK

3

Departed Facility in AMSTERDAM
- NETHERLANDS, THE

02:44 AMSTERDAM -
NETHERLANDS, THE



Wednesday, November 23, 2016

Time & Location

2

Processed at AMSTERDAM -
NETHERLANDS, THE

17:24 AMSTERDAM -
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Saturday, November 19, 2016

Time & Location

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Shipment information received

11:49 EINDHOVEN -
NETHERLANDS, THE

MIDLANDS - UK

UK

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Wednesday, November 23, 2016

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Time & Location

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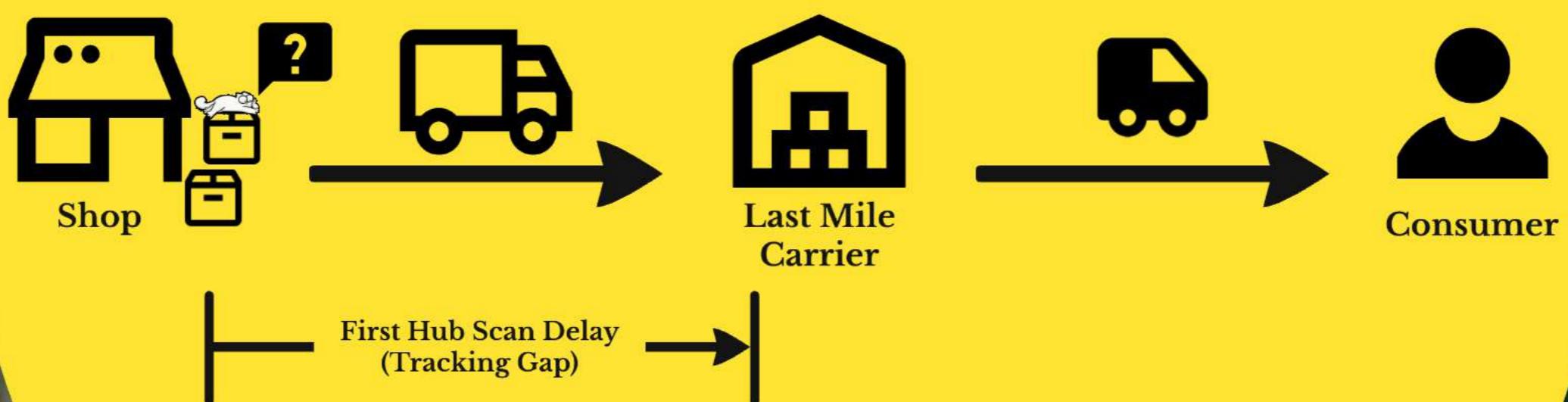
Pieces 1

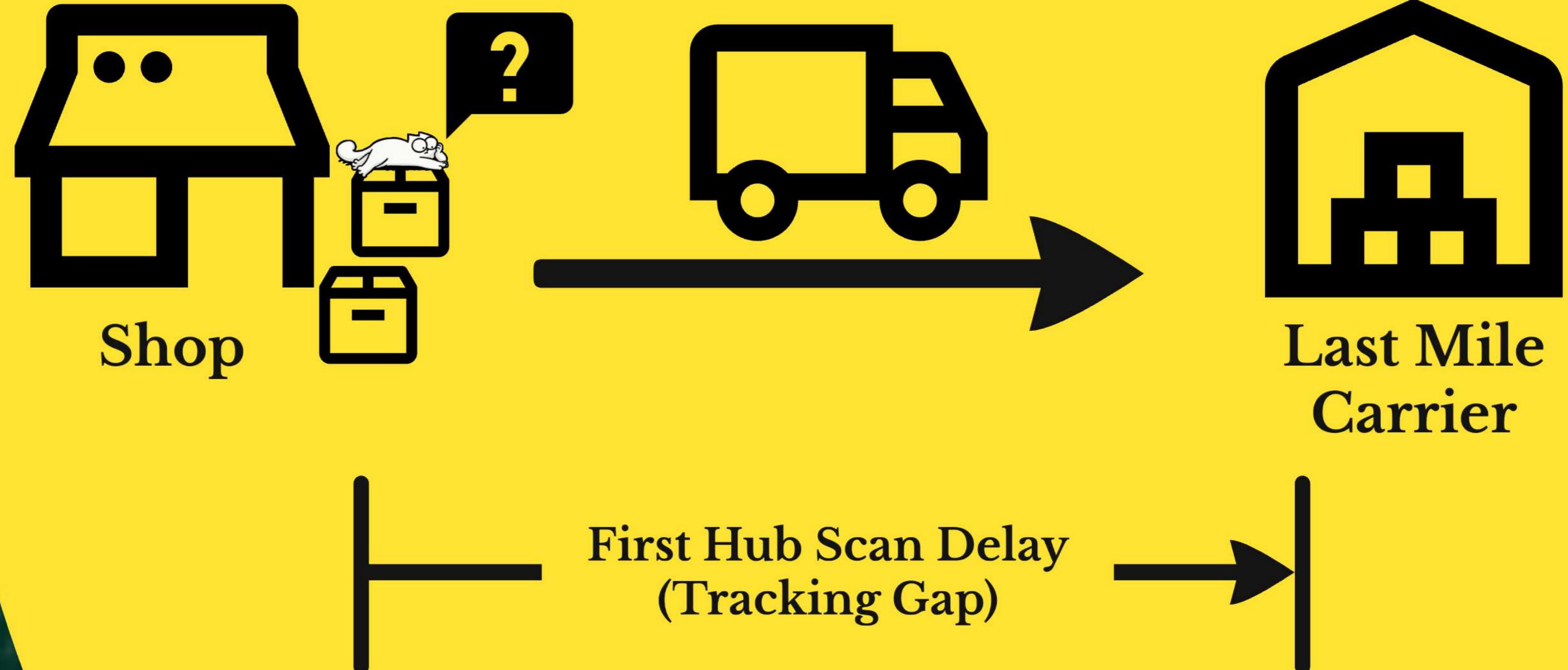
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Tracking Gap

Data Science Solution

The Tracking Gap





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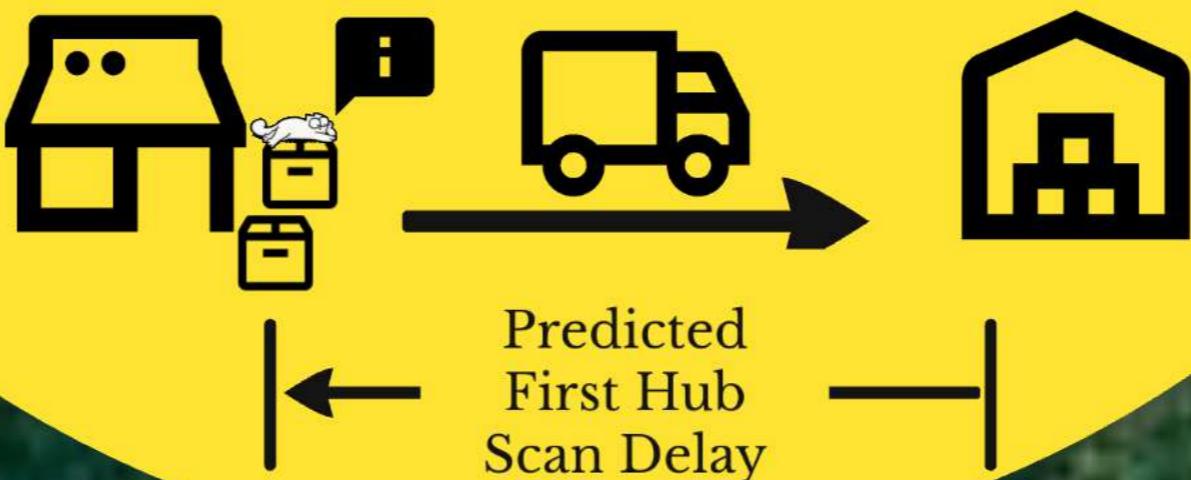
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Tracking Gap

Data Science Solution

SOLUTION?

Link a shipment to a truck based on its predicted First Hub Scan delay.



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Tracking Gap

Data Science Solution



Dispatcher

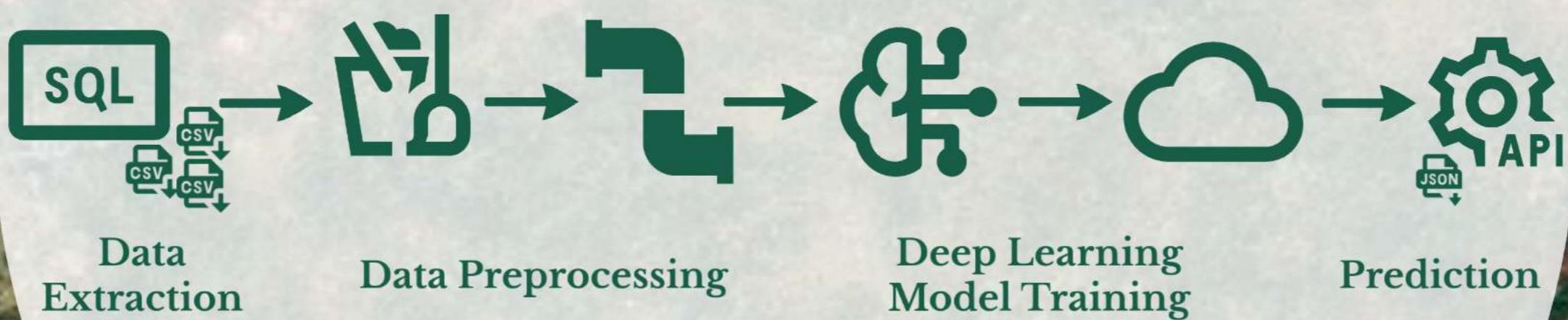
Tracking
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Dispatcher

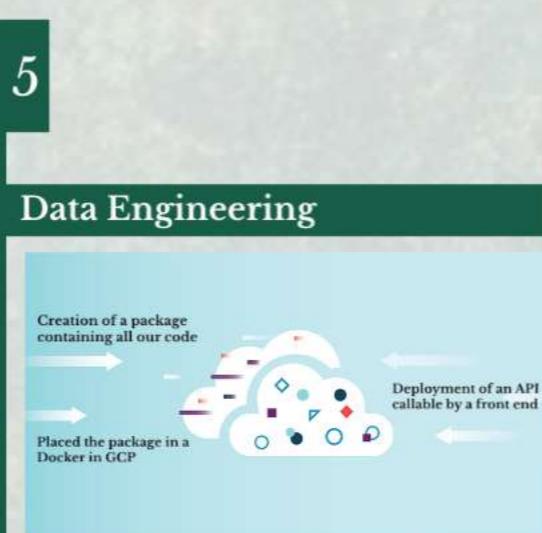
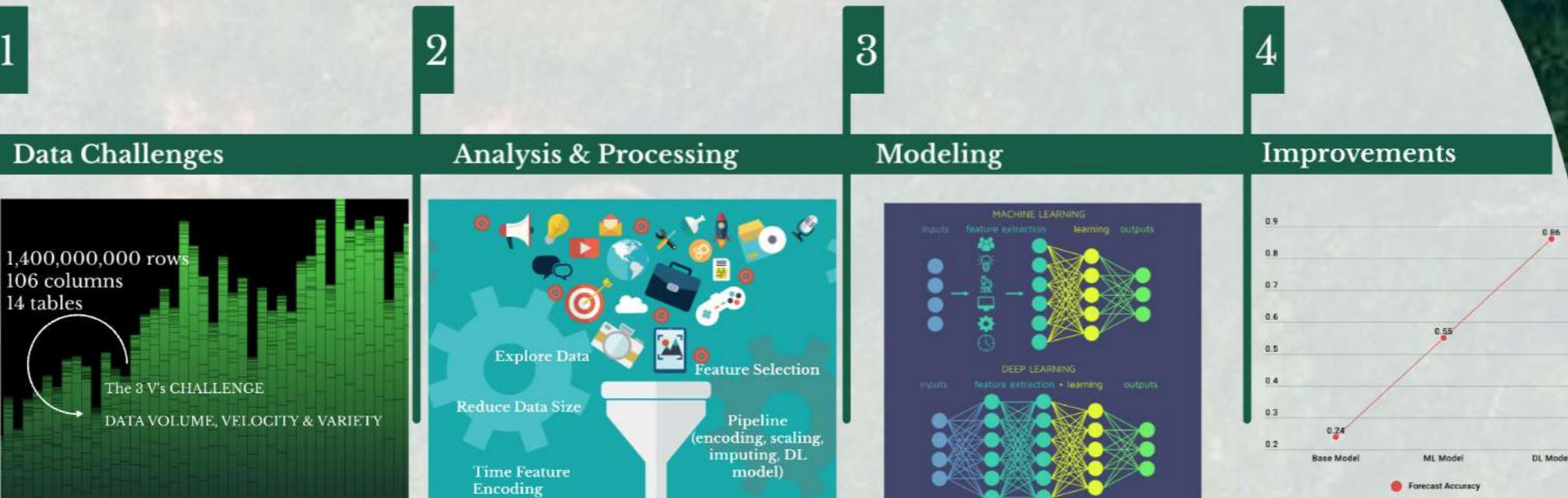
Tracking
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PROGRESS TIMELINE



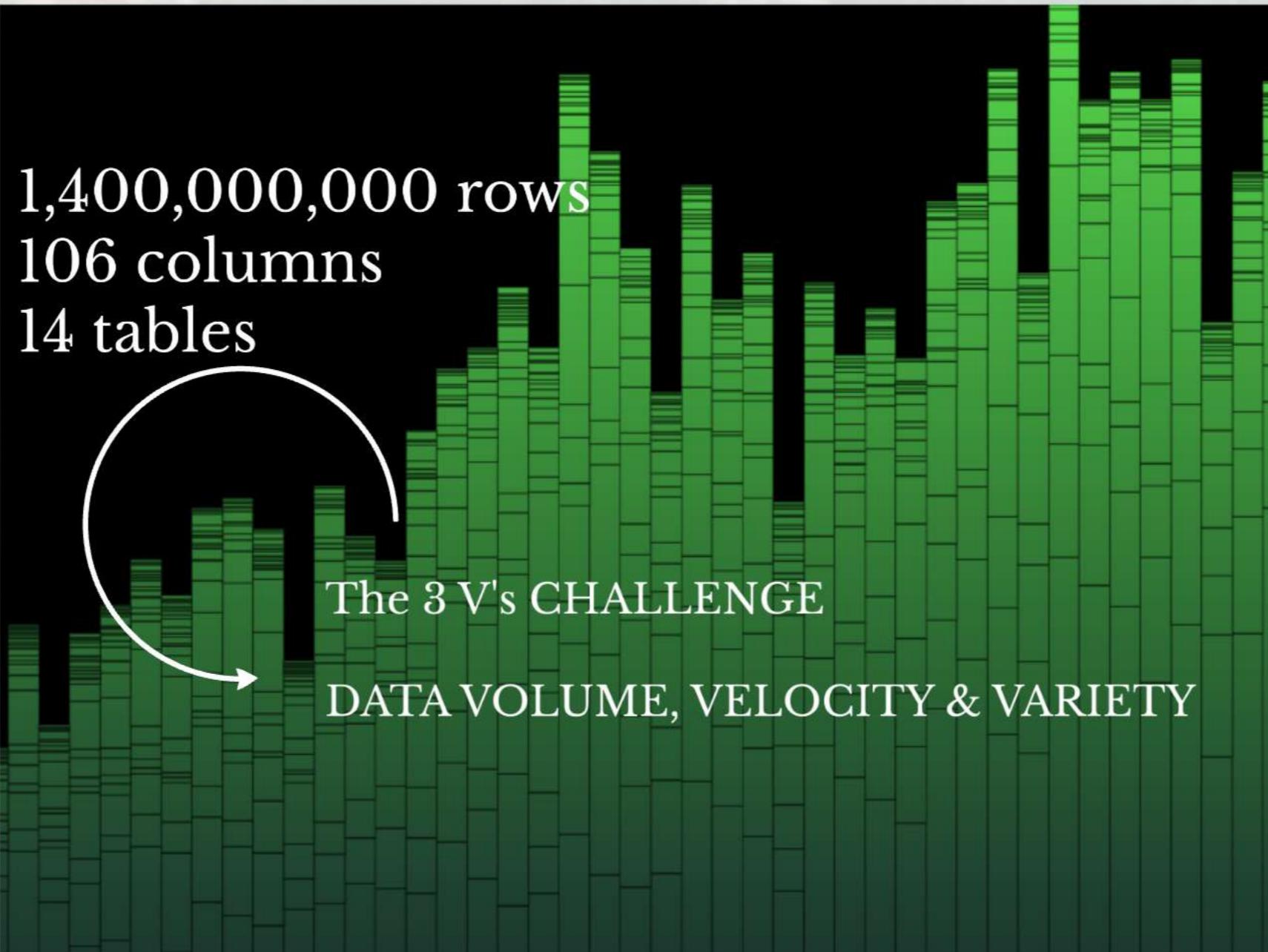
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Data Challenges

1,400,000,000 rows
106 columns
14 tables

The 3 V's CHALLENGE

DATA VOLUME, VELOCITY & VARIETY



2

Analysis & Proc



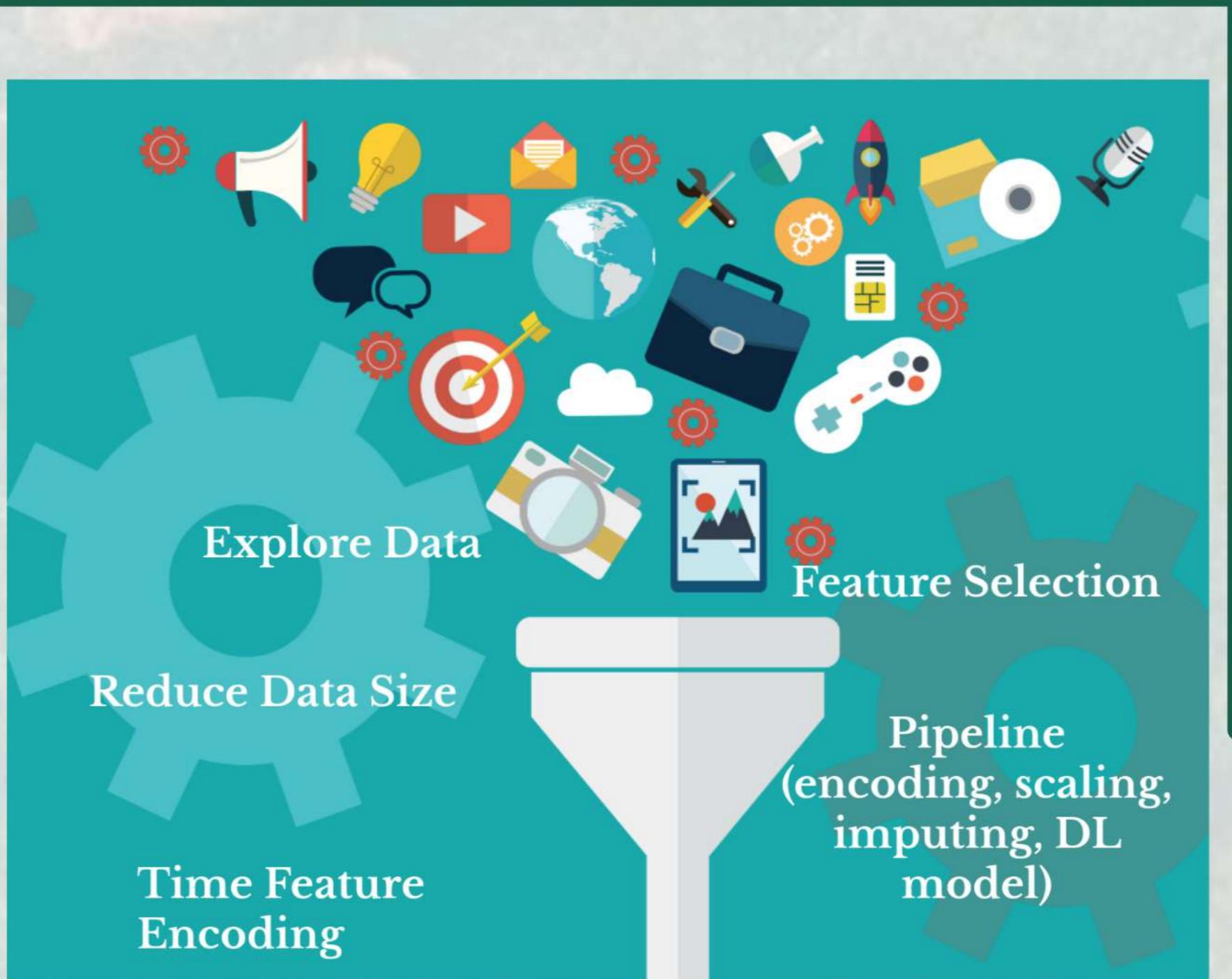
Reduce Data Size

Time Feature
Encoding

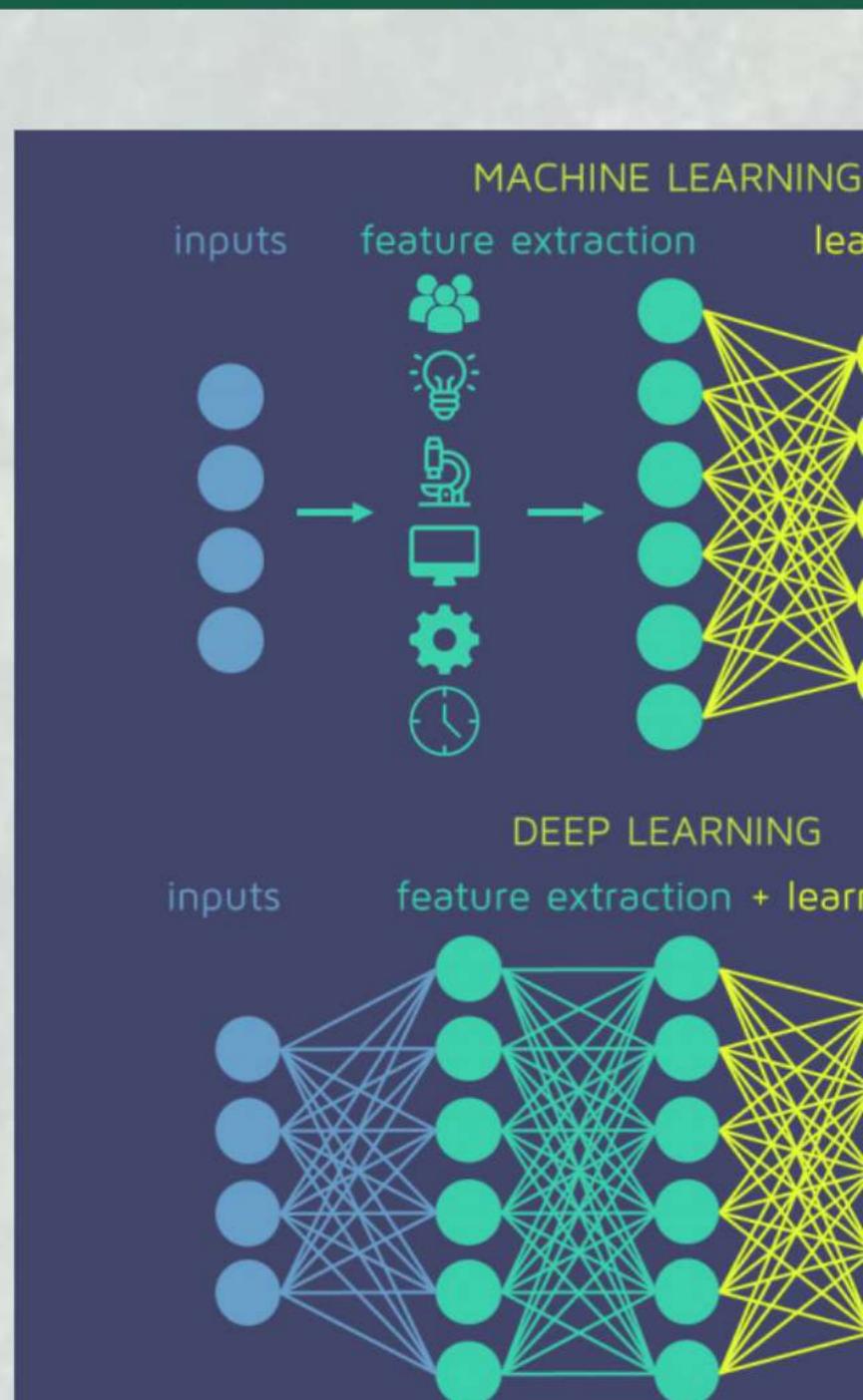
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2 Analysis & Processing



3 Modeling

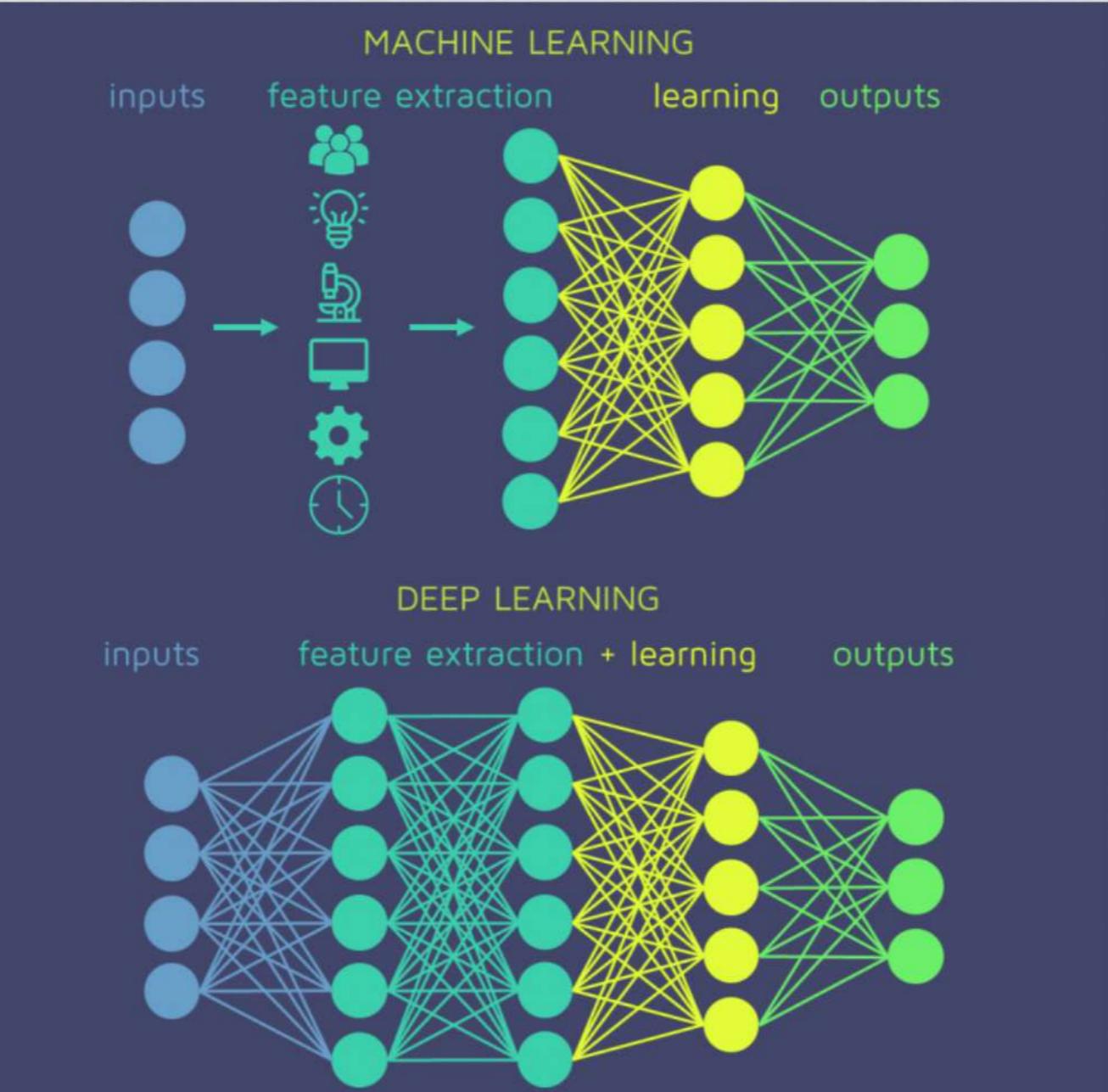


Processing



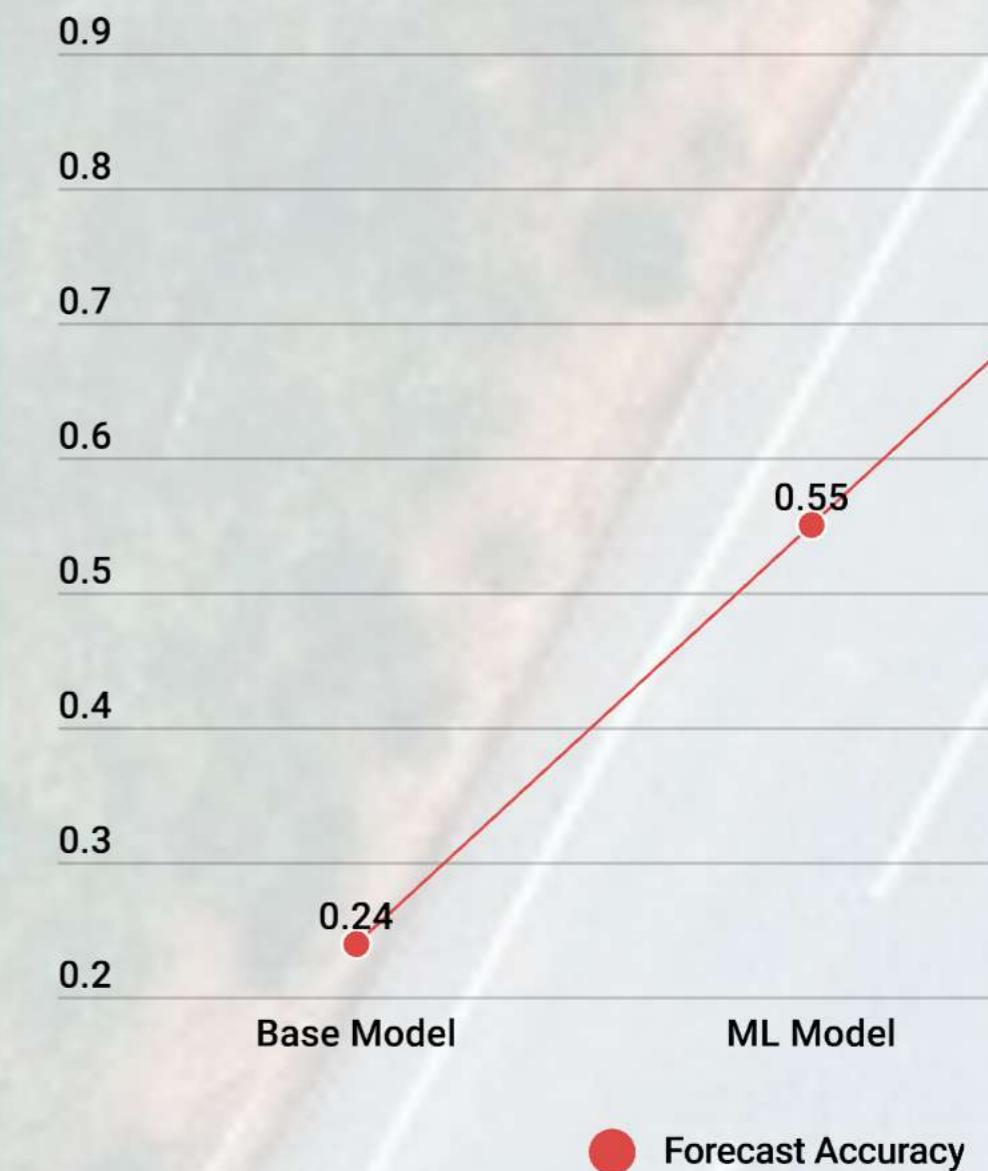
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Modeling



4

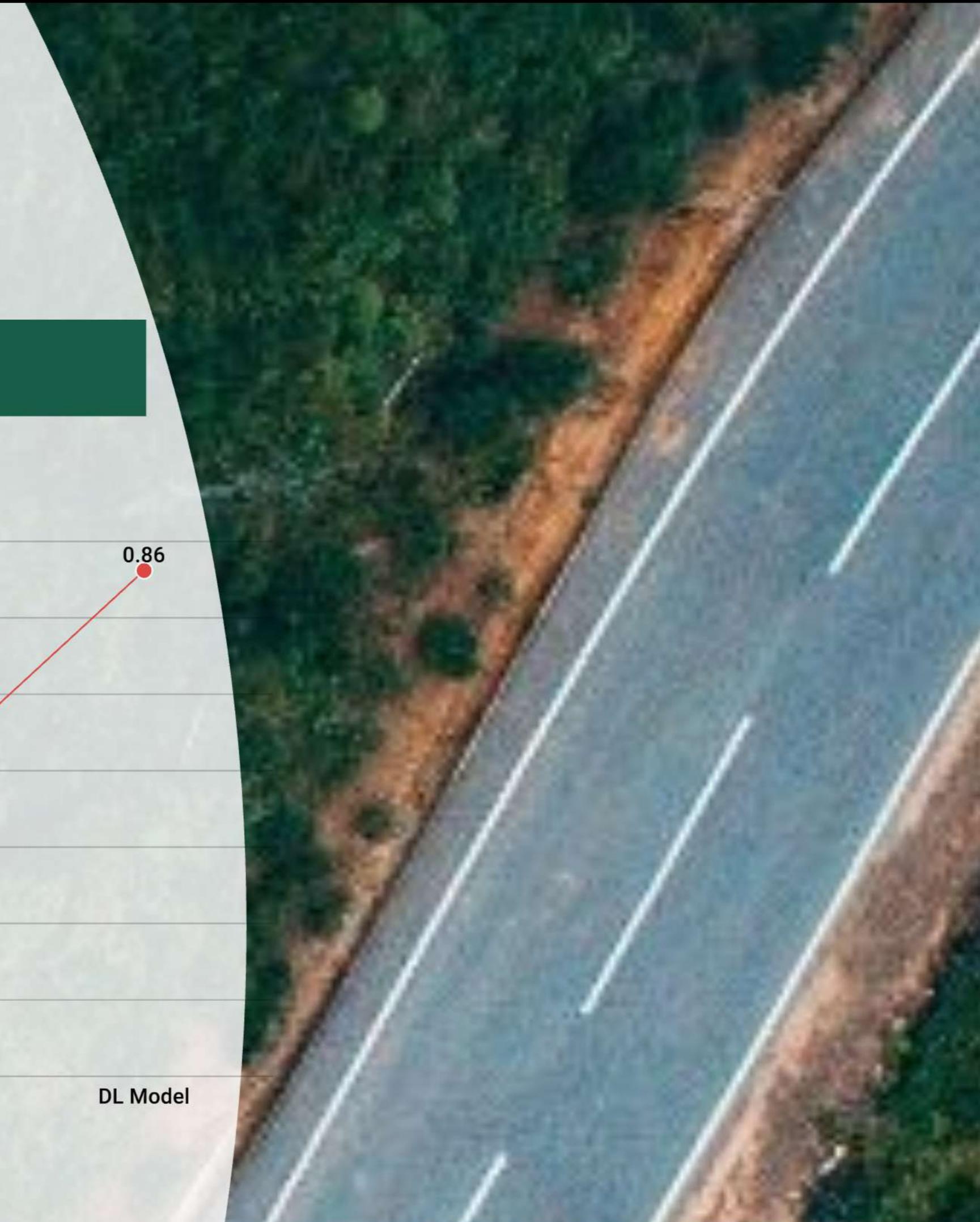
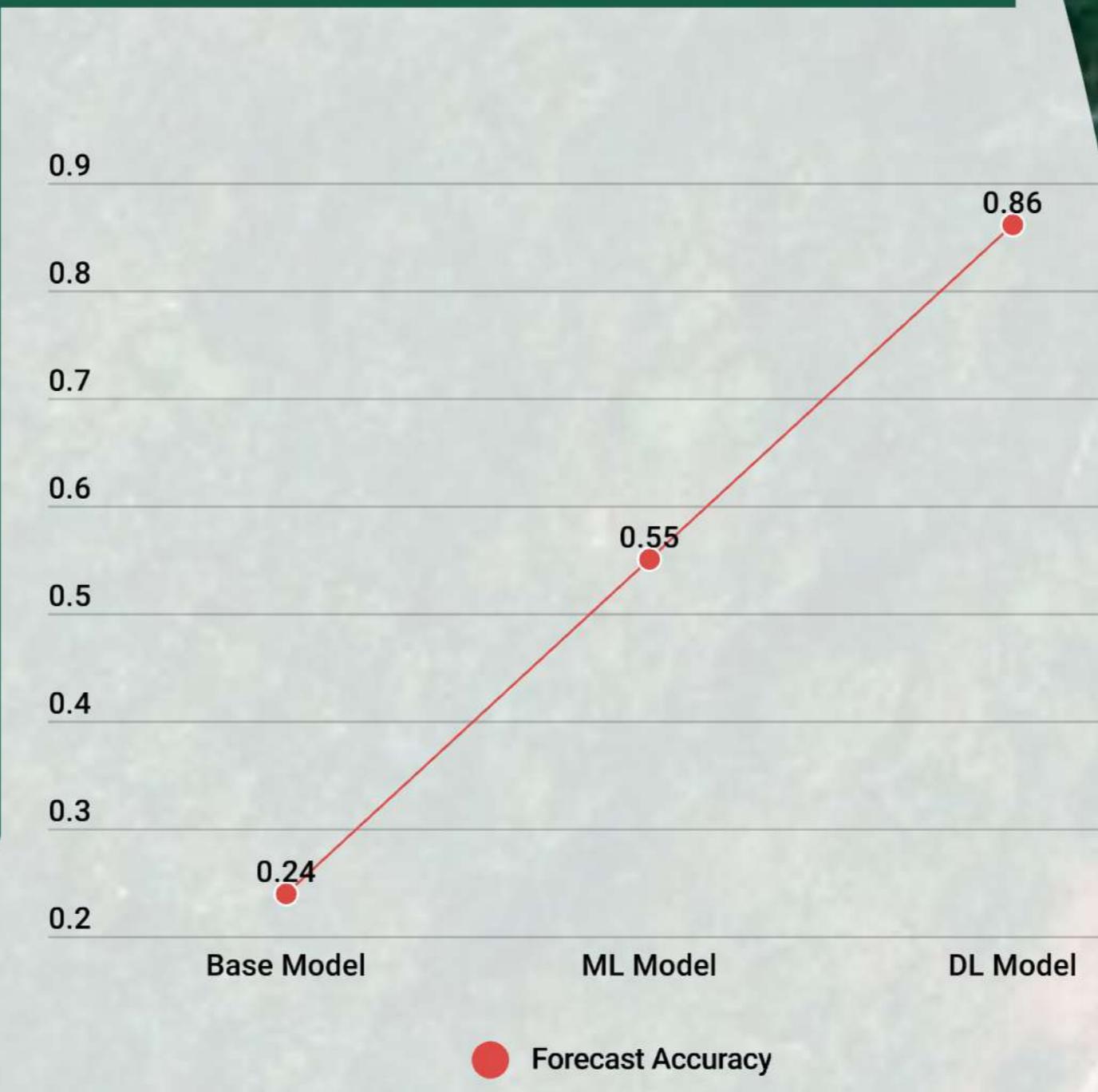
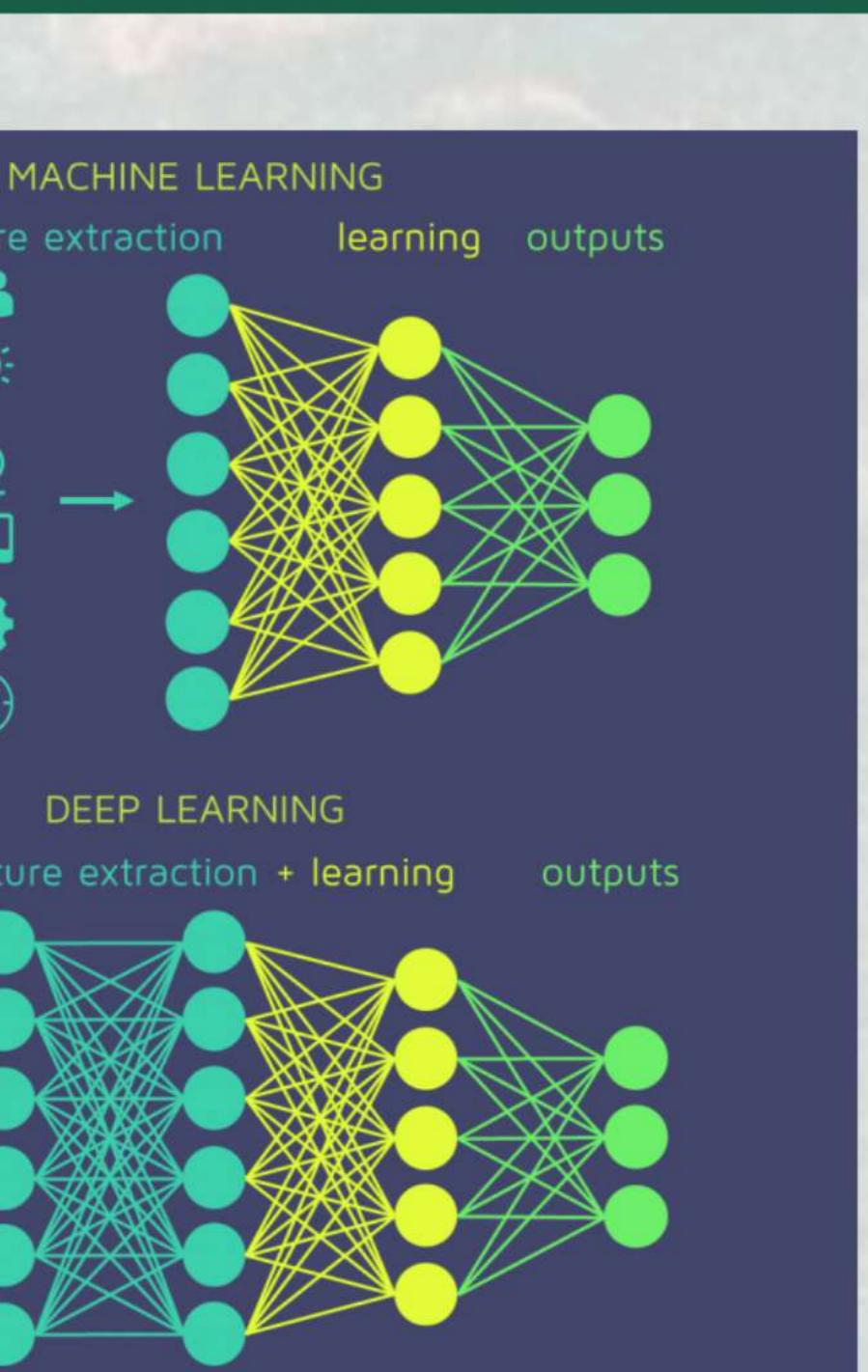
Improvements



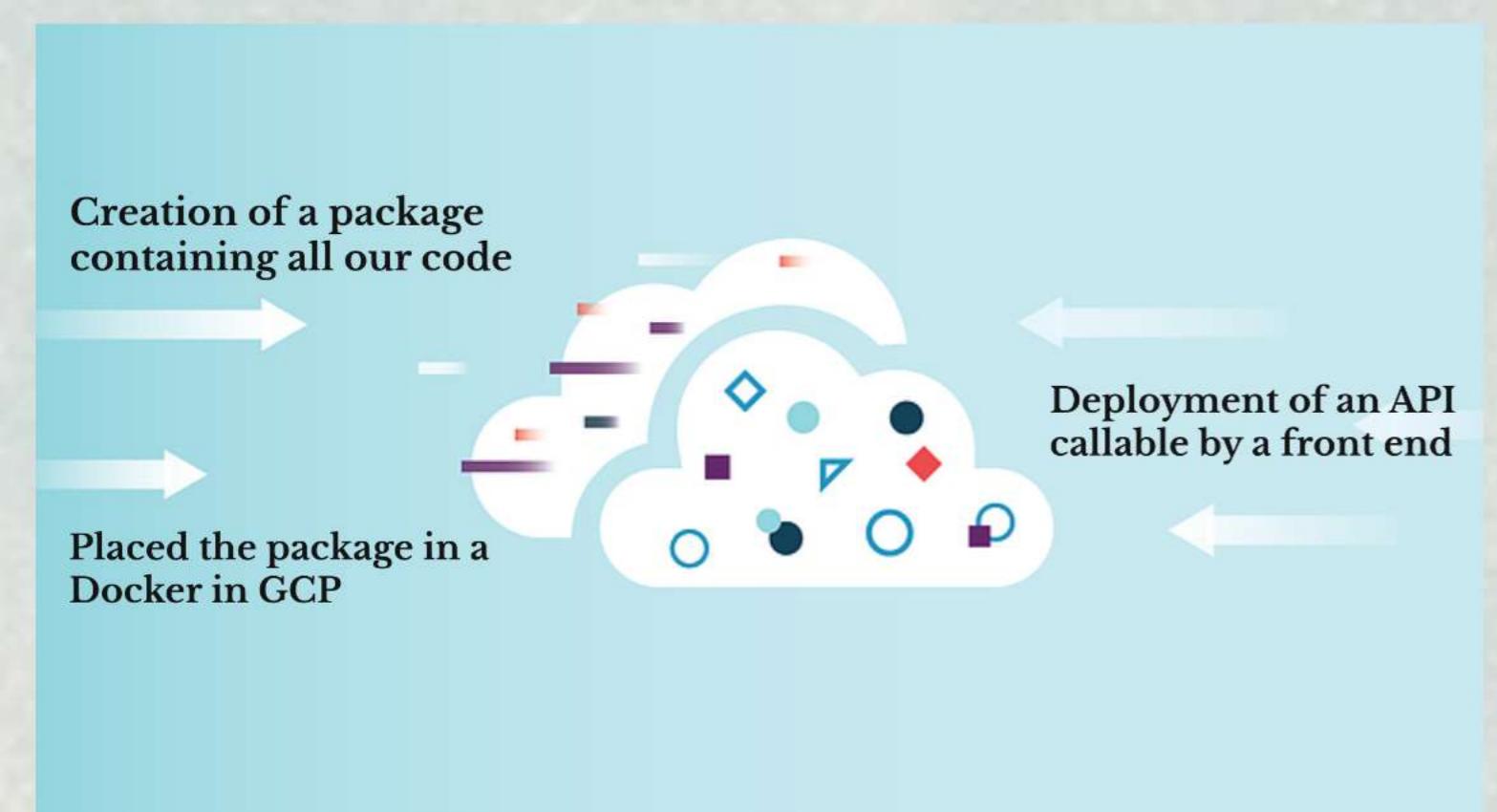
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4

Improvements



Data Engineering



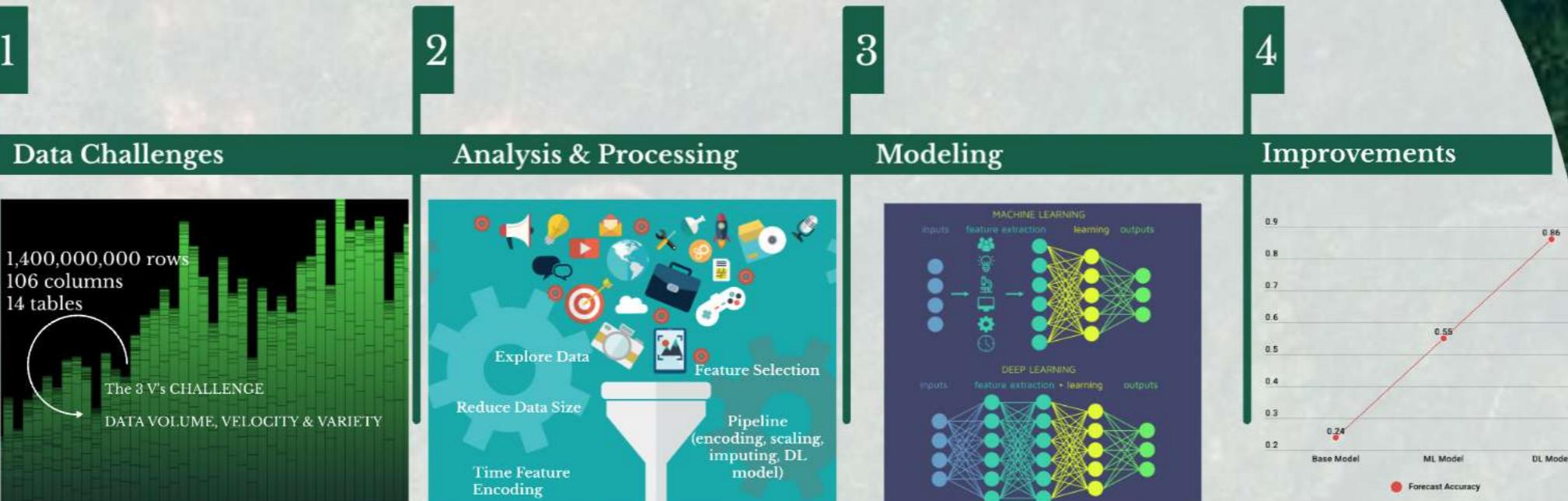
DEMO



<https://dispatcher-lewagon.herokuapp.com/>



PROGRESS TIMELINE





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Outlook

OUTLOOK



Next
Steps

Team



NEXT STEPS

1

Model Improvement



Where can this model go?

2

Feature Engineering



More features, more problems?

3

Dashboards



Actionable results

OUTLOOK



Next
Steps

Team



Dispatcher Team



Christian
Github: <https://github.com/christianklausML>



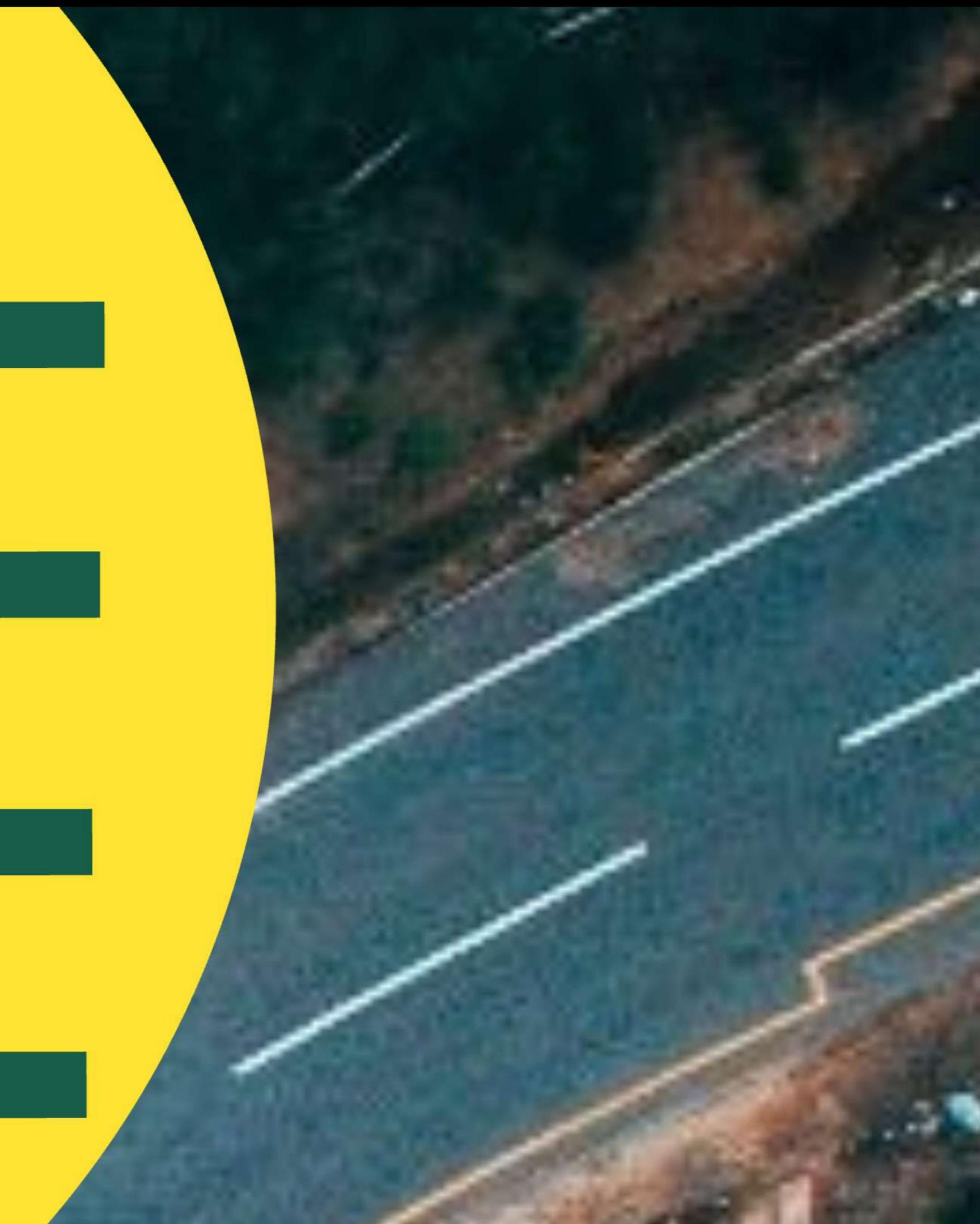
Irina
Github: <https://github.com/irinabulina>



Umer
Github: <https://github.com/Umer-c>



Martin
Github: <https://github.com/N1tram>





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