Machine Intelligence for Urban Mobility

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Taxify Growth in 1 Year

- 3M ➞ 15M Riders
- 100 ➞ 700 Team
- 11 ➞ 25+ Countries
- Fastest growing In the world
- Leading in Europe
Matching Demand with Supply
Network Effects

Higher RPH → More Drivers → Lower ETA → Lower Prices → More Demand → Higher RPH

Better driver earnings vs. competition
Topics

- Campaigns
- Pricing
- Dispatching
- Fraud
- Maps
- Sensor data
- CS automation
Who we are, what we are up to

- 50 different nationalities
- 700 people
- 150 people in engineering and product
- 175M investment from Daimler in May
- More expansion needs more talents!

http://taxify.eu/careers
Our technical stack:

- Kotlin
- Apple
- Android
- Python
- Node.js
- TypeScript
- PHP
- AWS
- Docker
- MariaDB
- Redis
How to get drivers and riders?

- Positive Responses
  - smart
  - random

Graph:
- Discovery
- Consideration
- Conversion
- Retention
How to balance supply and demand?

- What is demand?
- What is supply?
- Non-linear dynamics
- Feedback loops in the market
Whom to match with whom?

- **Greedy matching**
  - Closest to closest
  - Immediately
- **Matrix matching**
  - Assignment of weights
  - Hungarian algorithm
- **Back-to-back rides**
- **Pooling**
Not everyone has good intentions

- **Fraud**
  - Free rides
  - Reselling
  - Driver fraud (self-order)

- **SOS (robberies, assaults)**
  - Previous history
  - Current behaviour
  - Context: time, location etc
Not only cars

Scooters

● “Exploded” in the US this spring
● Took us 2 months to roll out

● Grows many times faster than ride-hailing
● Competition is not as fierce yet
● Real hardware, more complexity
From models to the real world

- Technical challenges
  - Simulation, retraining, automation
  - Data engineering

- Competition

- Outside of software
  - Device quality
  - Seasonality
  - Different cultures
Self-driving cars: not a fantasy
Urban mobility of the future

<table>
<thead>
<tr>
<th>Year</th>
<th>On-Demand</th>
<th>Personal Car</th>
<th>Public Transport</th>
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</thead>
<tbody>
<tr>
<td>2017</td>
<td>2%</td>
<td>48%</td>
<td>50%</td>
</tr>
<tr>
<td>2025</td>
<td>30%</td>
<td>30%</td>
<td>40%</td>
</tr>
</tbody>
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