

How to train your AI

Mikhail Dubov

@mdubov





chattermill

We use AI to help companies understand and improve customer experience

AI is everywhere



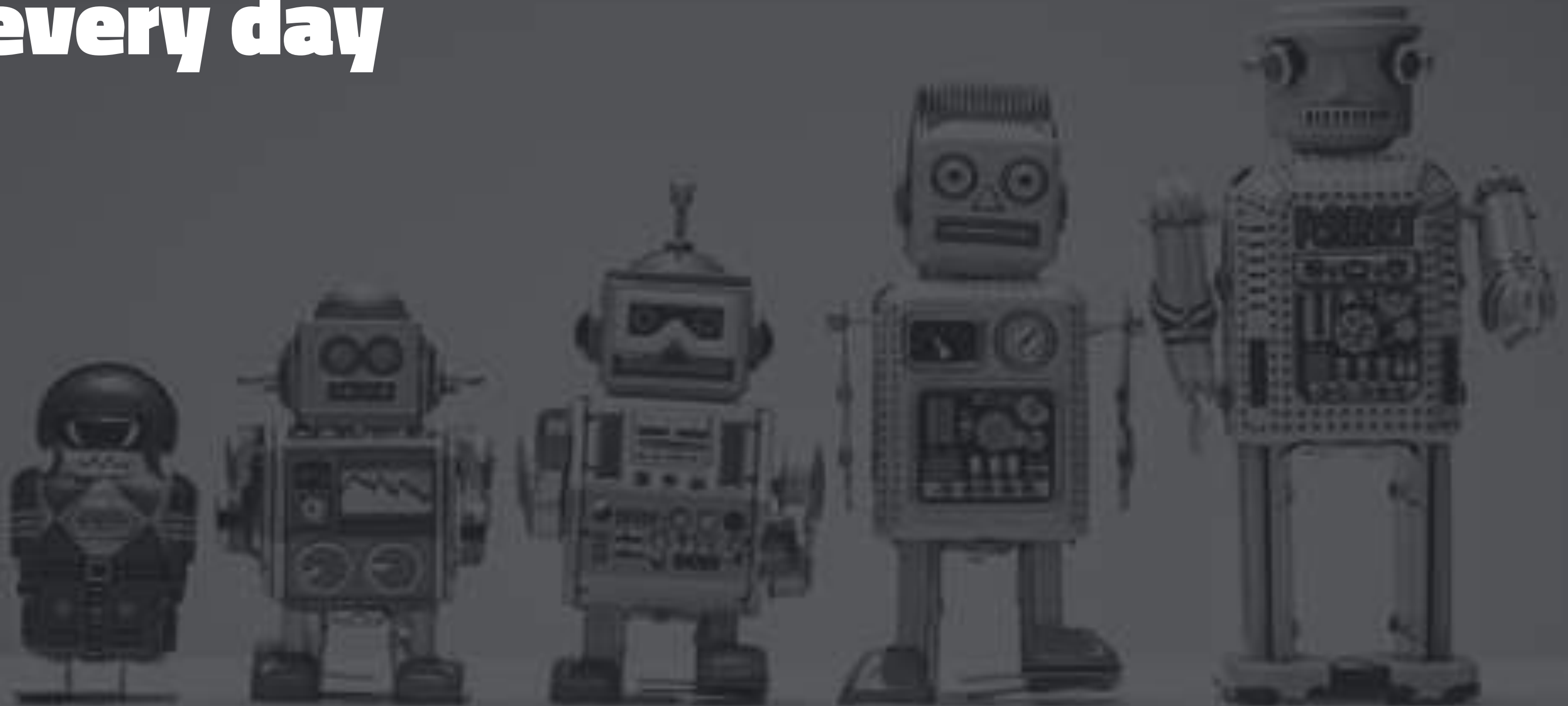
Self Driving Cars



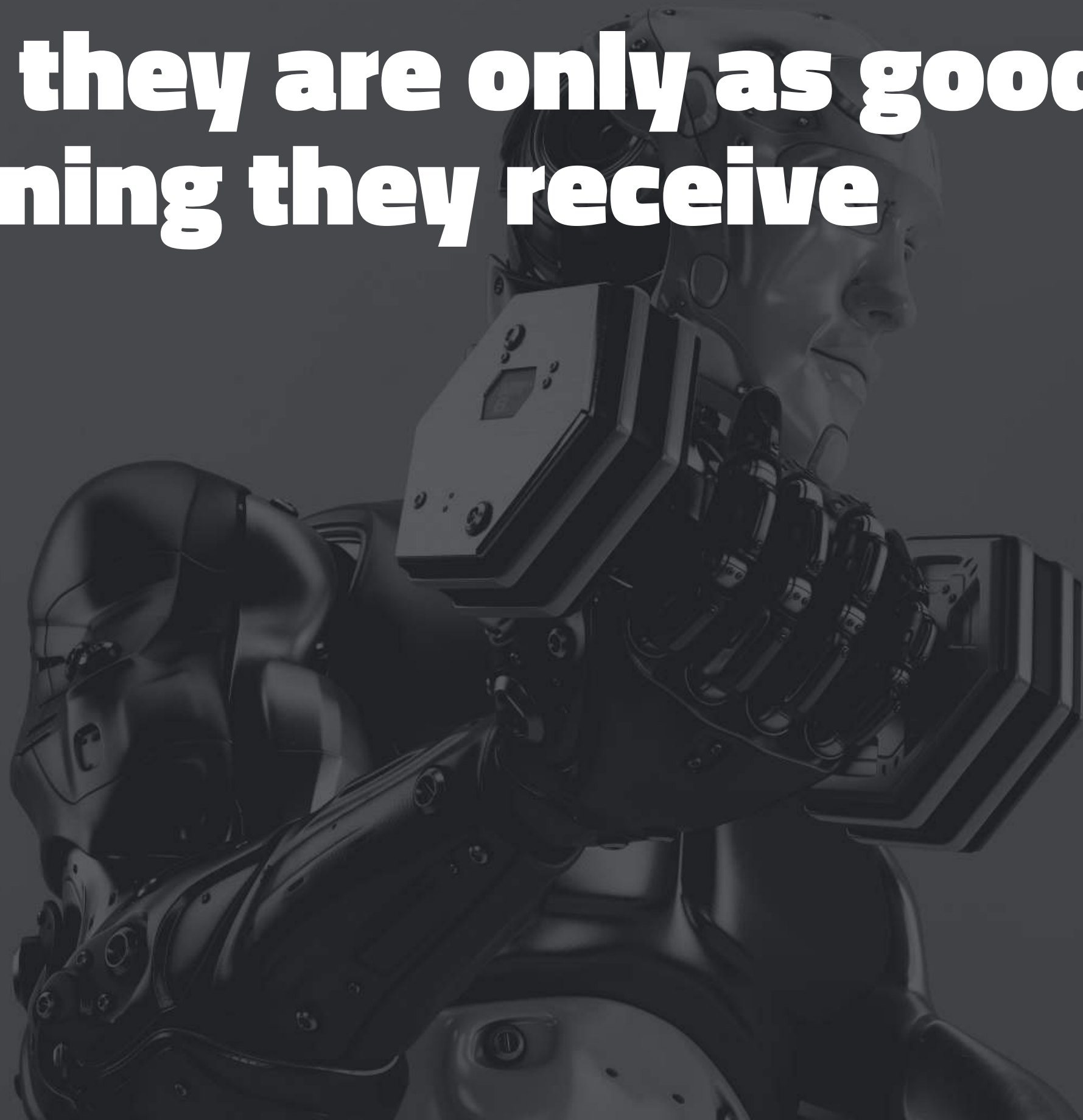
Chatbots



**The algorithms are getting better
every day**



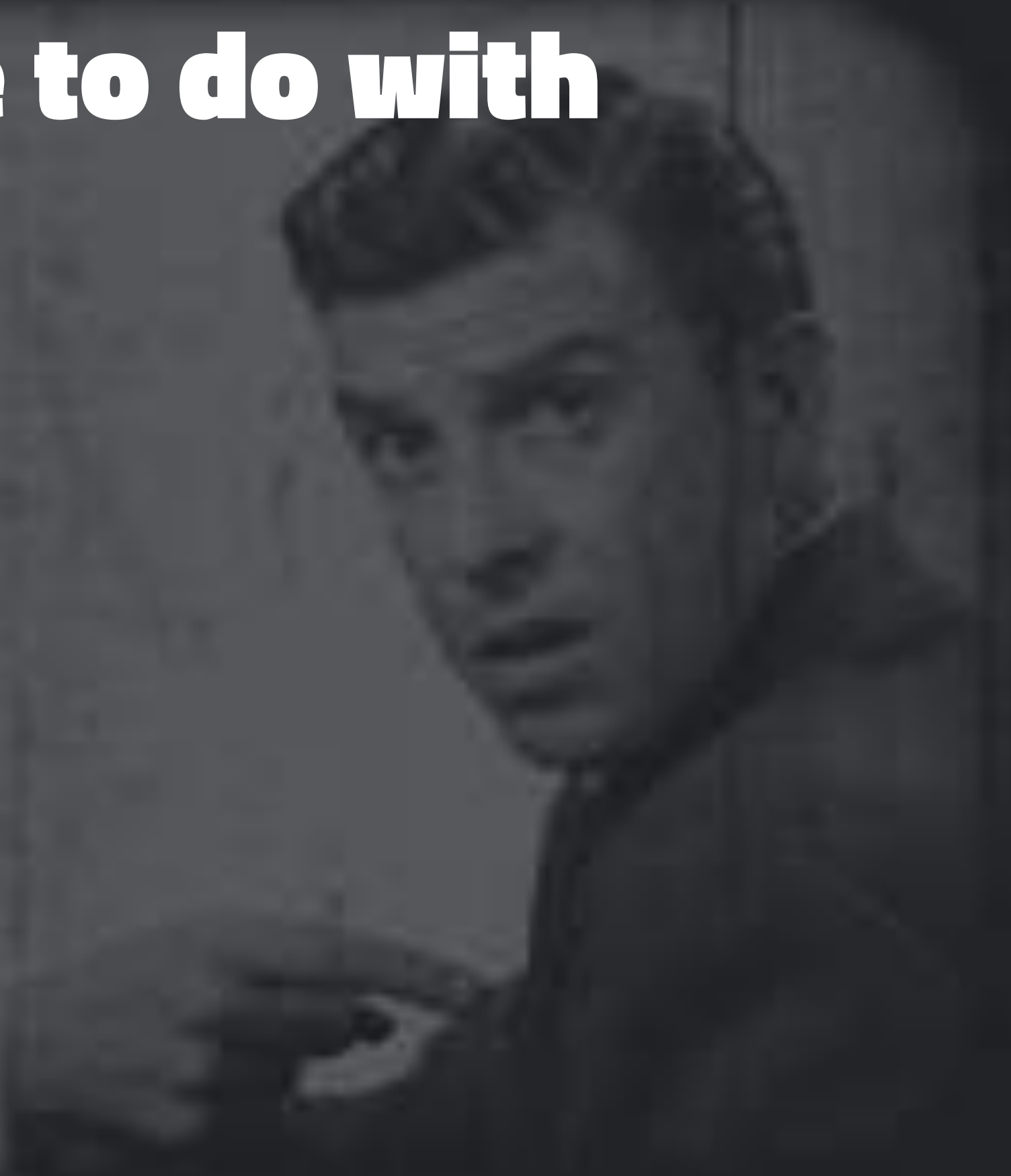
**But they are only as good as the
training they receive**



A very smart AI can still be a bad AI

So what does it have to do with insight?


What's
in it for
ME?



80% of your data is unstructured.

Humans are expensive

AI can become your competitive advantage

A grayscale photograph of two athletes in a starting crouch on a track. The athlete on the left is reaching out with their hands towards the athlete on the right. The background is dark and out of focus.

HelloFresh uses AI in their quest for the perfect recipe

6 steps to AI bliss

Step 1. Design the task

Step 1. Design the task

- Sentiment analysis

Step 1. Design the task

- Sentiment analysis
- Topic classification

Step 1. Design the task

- Sentiment analysis
- Topic classification
- Named entity extraction

Step 1. Design the task

- Sentiment analysis
- Topic classification
- Named entity extraction
- Aspect based sentiment analysis

10

I came across a problem with returning some items and the refund not adding up but Anna kindly helped out. She was very helpful in sorting the problem out.



Products | Returns / Refund

Customer Care | Helpfulness

Customer Care | Problem resolution

14 days ago

Step 2. Collect quality data

Step 2. Collect quality data

- Focus on text

Step 2. Collect quality data

- Focus on text
- Ask the right question

Step 2. Collect quality data

- Focus on text
- Ask the right question
- Boost response rates



Step 3. Define actionable features

Step 3. Define actionable features

- Start with the data

Step 3. Define actionable features

- Start with the data
- Align the features with your business, not the opposite

Step 3. Define actionable features

- Start with the data
- Align the features with your business, not the opposite
- Build for the long term



**Everything should be made
as simple as possible **but no
simpler****

— Albert Einstein

Feature engineering has the highest ROI in AI design

Step 4. Build a training sample

Step 4. Build a training sample

- One human ≠ another human

Step 4. Build a training sample

- One human ≠ another human
- Robust vs. cost effective

Step 4. Build a training sample

- One human ≠ another human
- Robust vs. cost effective
- Aim for 10,000+ examples

A good training sample is more important than the algorithm

Step 5. Choose an appropriate algorithm

Step 5. Choose an appropriate algorithm

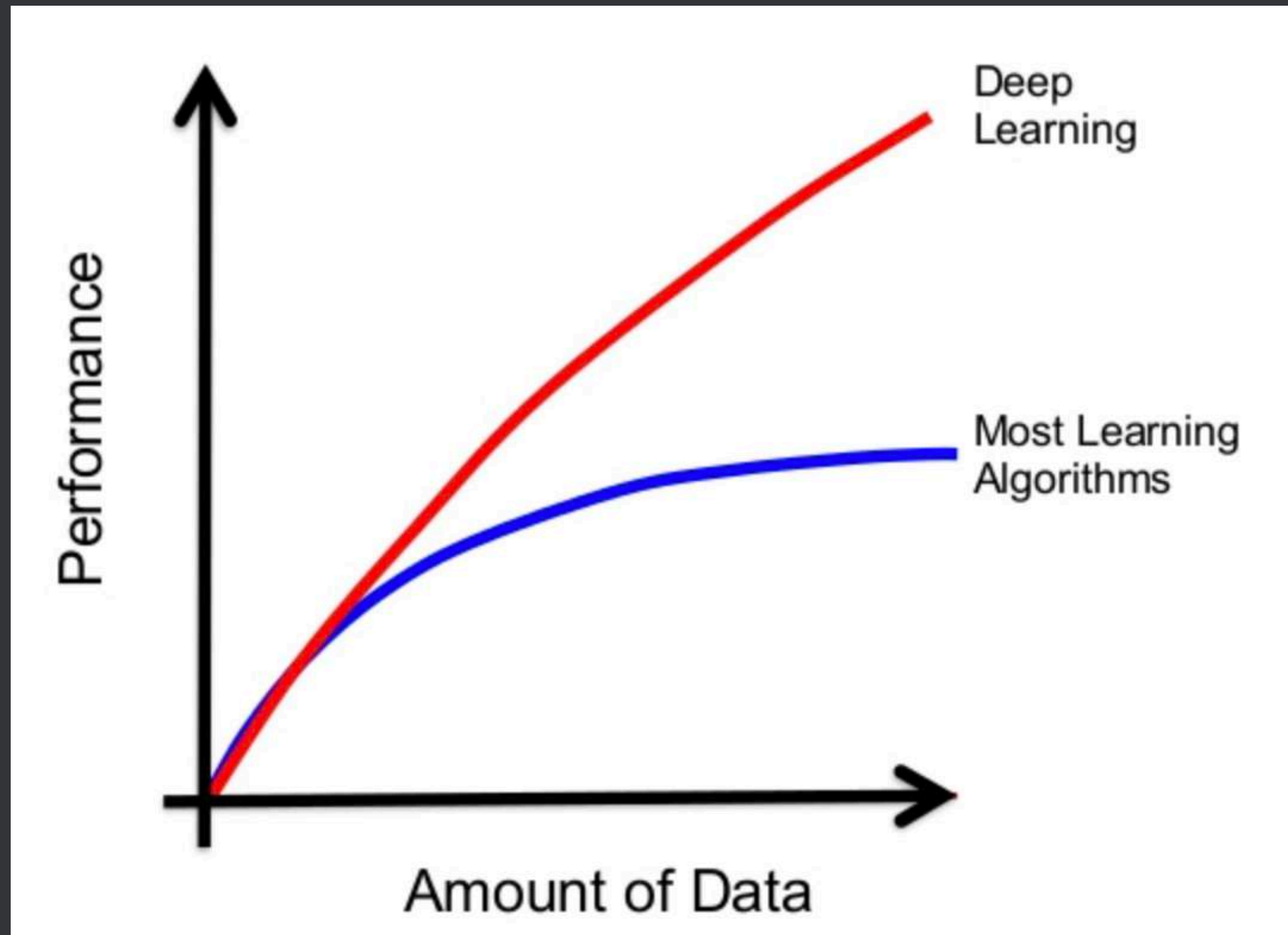
- Naive Bayes

Step 5. Choose an appropriate algorithm

- Naive Bayes
- SVM

Step 5. Choose an appropriate algorithm

- Naive Bayes
- SVM
- **Deep Learning**



Step 6. Make the data useful

Step 6. Make the data useful

- Forget Excel

Step 6. Make the data useful

- Forget Excel
- Metrics + raw feedback

Step 6. Make the data useful

- Forget Excel
- Metrics + raw feedback
- Slicing and dicing

The quality of the insight is only as good as its **delivery**

Parting Thoughts

Parting Thoughts

- You **will** meet AI and soon

Parting Thoughts

- You **will** meet AI and soon
- Your AI is only as good as your data

Parting Thoughts

- You **will** meet AI and soon
- Your AI is only as good as your data
- Data science is too important to be left to data scientists

You don't need to be Google to get amazing results if you invest in training your algorithm.

Thank you!

Q & A

Mikhail Dubov

mikhail@chattermill.io