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Machine learning!

(but in the real world)

29-06-22 / LIP Simposium - Coimbra

Duarte OC. & Olavo B.

1.Who are we?

Machine Learning Engineer

Duarte O.Carmo

Originally from Portugal, now living in Denmark

Background in Strategy, Consulting, Ventures

Enjoys running, coding, reading (and beer)

Machine Learning Engineer

Olavo Bacelar

From Porto

Background in Statistics, Physics, and… Statistical Physics

Loves hiking and learning all kinds of things

2.What’s Amplemarket?

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A new playbook for sales

Transform how B2B companies do sales and grow

Leverage AI to build sales tools that support teams doing sales

Help *our* customers find *their* right customers

We've been growing since 2014 and just received 12 mUSD

2014	2016	2019	2020	2021	2022
Y-Combinator investment	Amplemarket as a Service	Amplemarket as a Product	++ Investors & growth	$12 mUSD series A	...maybe you join?

Previously Orankl

ORANKL

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Our founding team is 100% NERD

Former LIP researchers

Co-founder

Luis Batalha

Luis' focus is on Product, ML and People. He helps drive Product development and works closely with the People team to expand Amplemarket worldwide.

NERD

Co-founder and CEO

João Batalha

Focus on Engineering. If there's anything that our Engineering team can't answer, he's your guy.

NERD

Co-founder

Mica Oliveira

Mica's main focus is Customers. He works closely with the Marketing, Growth, Sales and Success teams to drive strategy for activation, revenue and retention.

NERD

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We’re 100% remote and as distributed as they come

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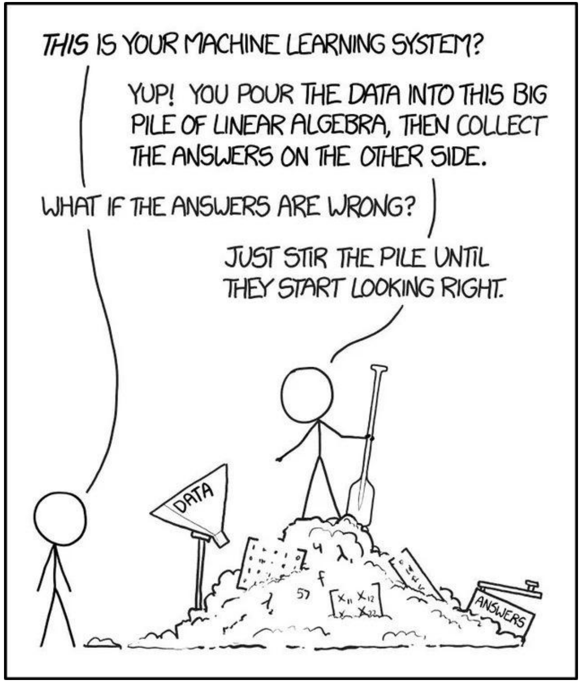
3.How do we do things?

“WE NEED A MACHINE LEARNING MODEL”

(you probably don’t)

We don’t start with Machine learning, we start with people



- Define the business goal, and the success metric
- This is real world (bad) data - not Kaggle: cr*p in, cr*p out
- Start with heuristics, and increase complexity as needed
- Put it out there as fast as possible, then iterate

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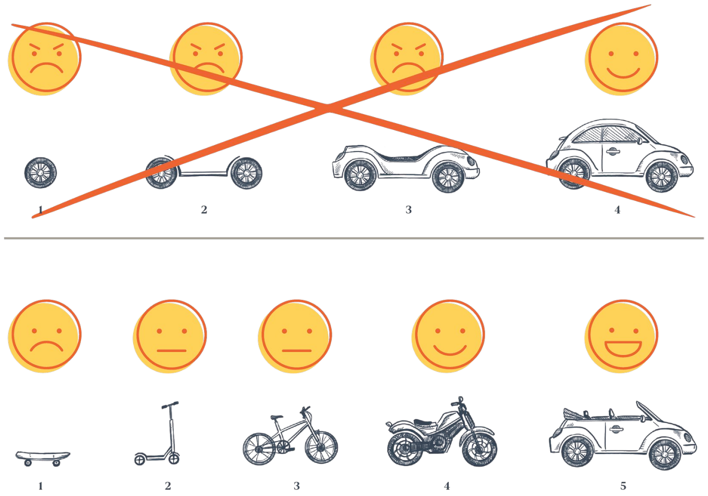
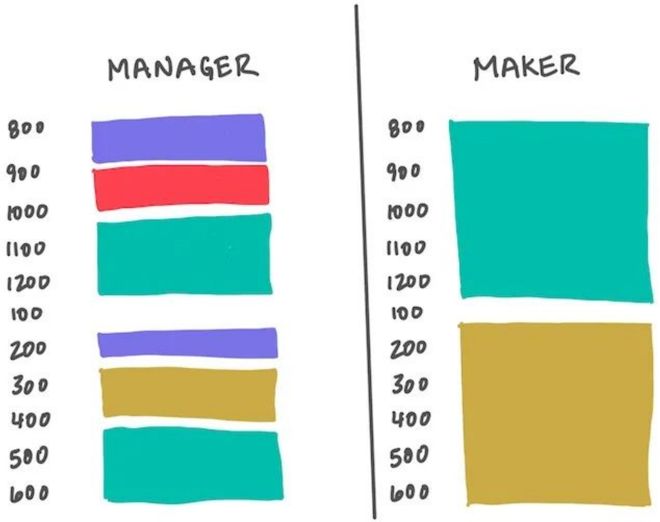
Our focus is to do applied research that directly improvers our users' experiences



- We don't spend too much time in the basement
- Incredible models are useless if not shared with users
- Best model != best solution for the users/business (business metric)
- Quick iterations guarantee you are solving the right problem

We're makers at heart, and treat our schedules like it



- Minimize time in meetings and double down on communication
- Fridays = no meetings
- We are on an emerging tech field, studying is important
- We are builders of things, disruptions are not welcome

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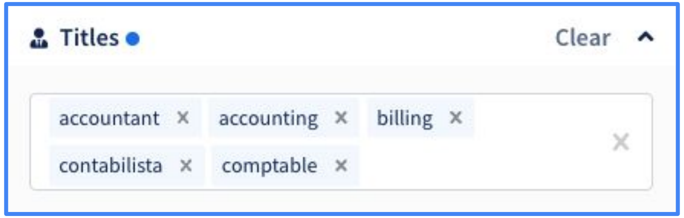
4.1. Job title classification

Job titles help you find good leads, but there are millions of them

- 38 million different titles in our database
- Many ways to search for relevant people:



- GOAL: Categorize job titles into multiple functions or departments
- Titles are not easy:

"Java Ninja"

"Developer advocate"

"Digital overlord"

"Co-Founder and Board Member"

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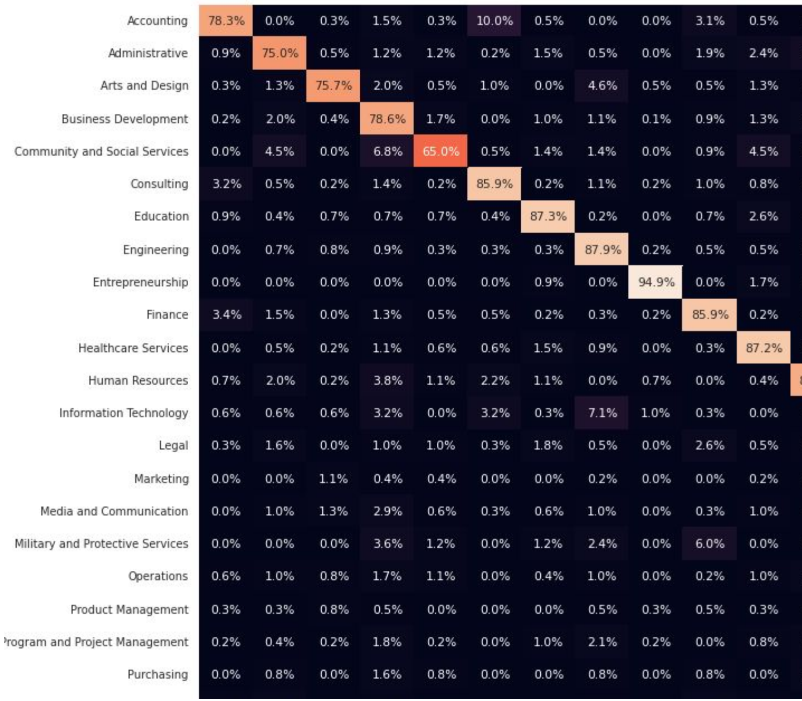
We started with a typical machine learning approach

- Find dataset that maps titles to categories
- Quality check and clean data
- Train model, e.g: fastText
- Some issues:
    - Small dataset
    - Single-label
    - Lots of bad labels



FIRST STEP:
GET BETTER DATA

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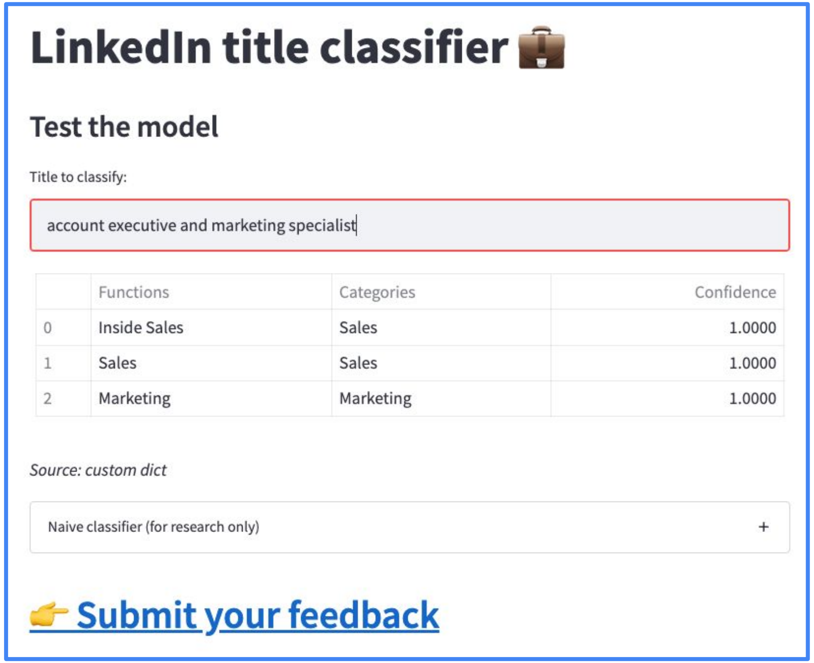
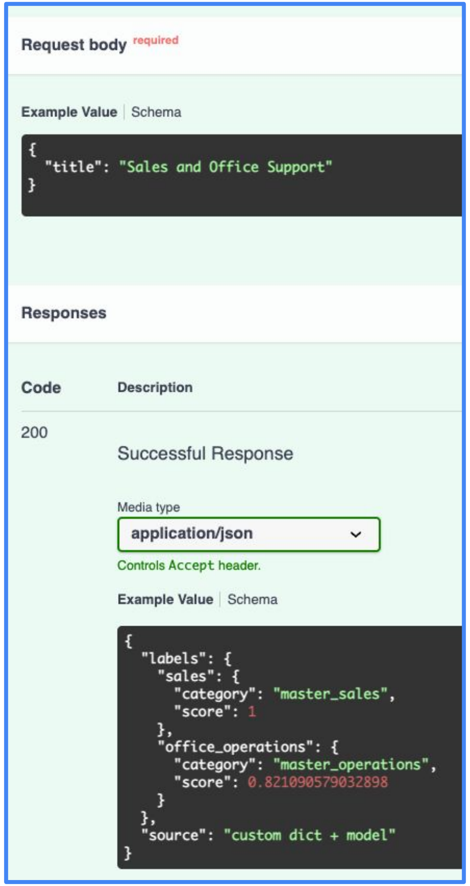
We share our models with devs and other teams



Streamlit web app to share classifier with other teams



Documentation for the API of the classifier

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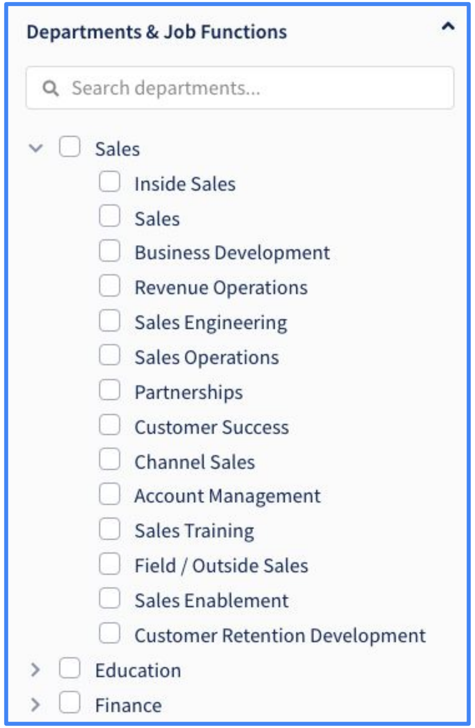
Results after deployment by devs into the database and integration in the searcher



- Millions of titles classified
- 13 high level categories / departments
- 196 subcategories
- Multiple categories per title possible

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4.2.Company recommendation system

How can we help sales teams find their ideal customers?

- The Amplemarket platform
- A sales lead
- Lead qualification is manual
- Lots of time spent qualifying
- How can we support this process?

Company Name	Description	Potential Customer?
Jeronimo Martins	We have supermar..	✅
Facebook	A social media..	❌
Galp	Largest gas prov..	✅
EDP	Energias de Port..	✅
Google	At Google, we're..	❌
...	...	...

Lead qualification process
4 people every day

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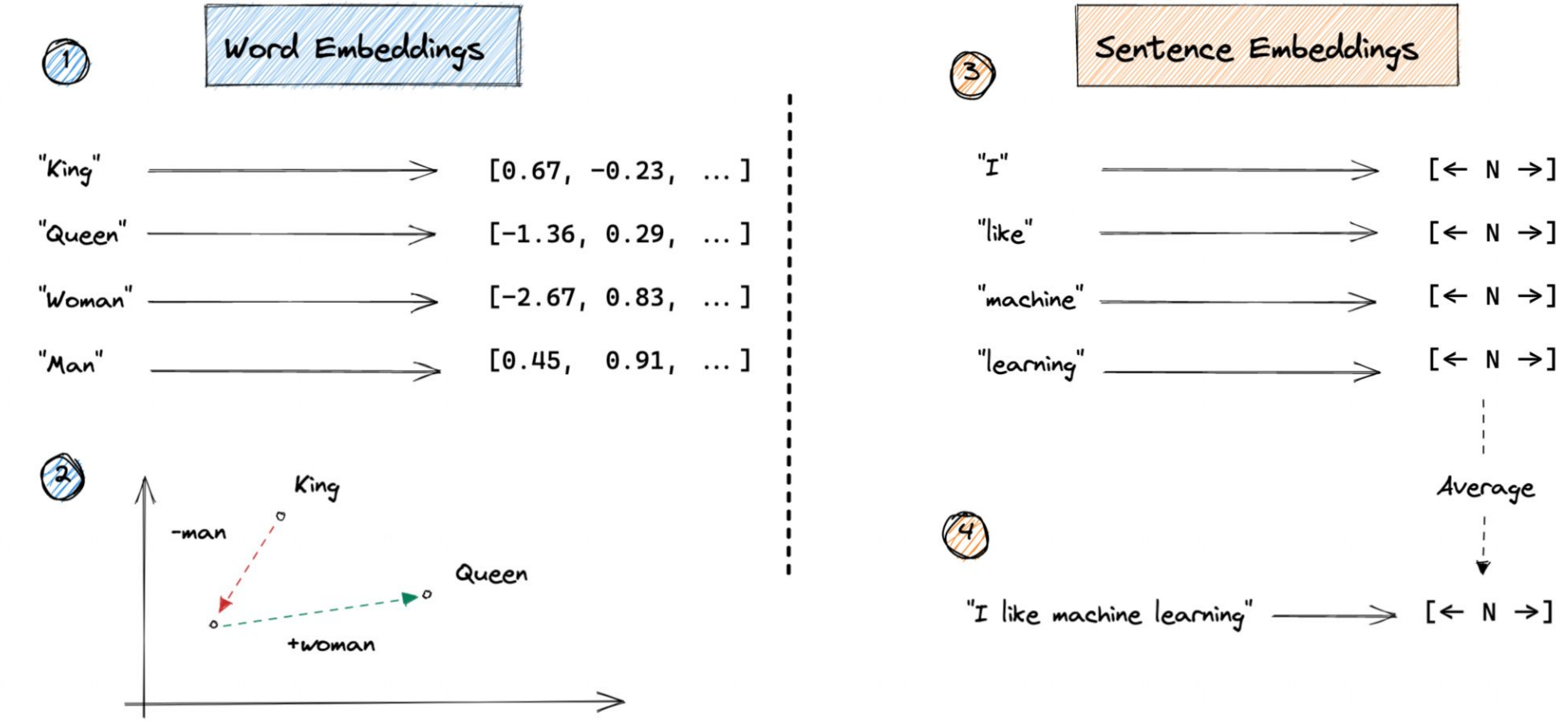
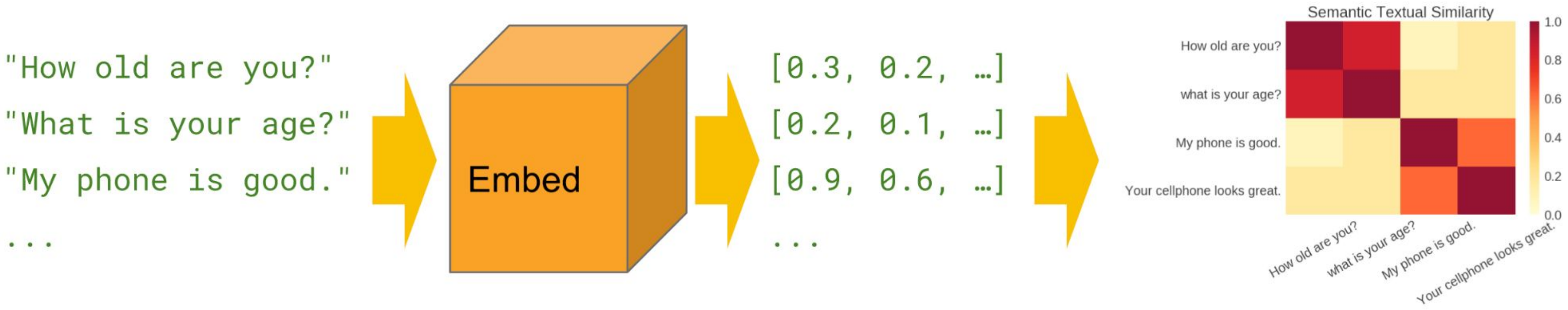
What the hell are embeddings?



Sentence embeddings have a wide range of applications in Machine Learning



Source: [Tensorflow Hub]

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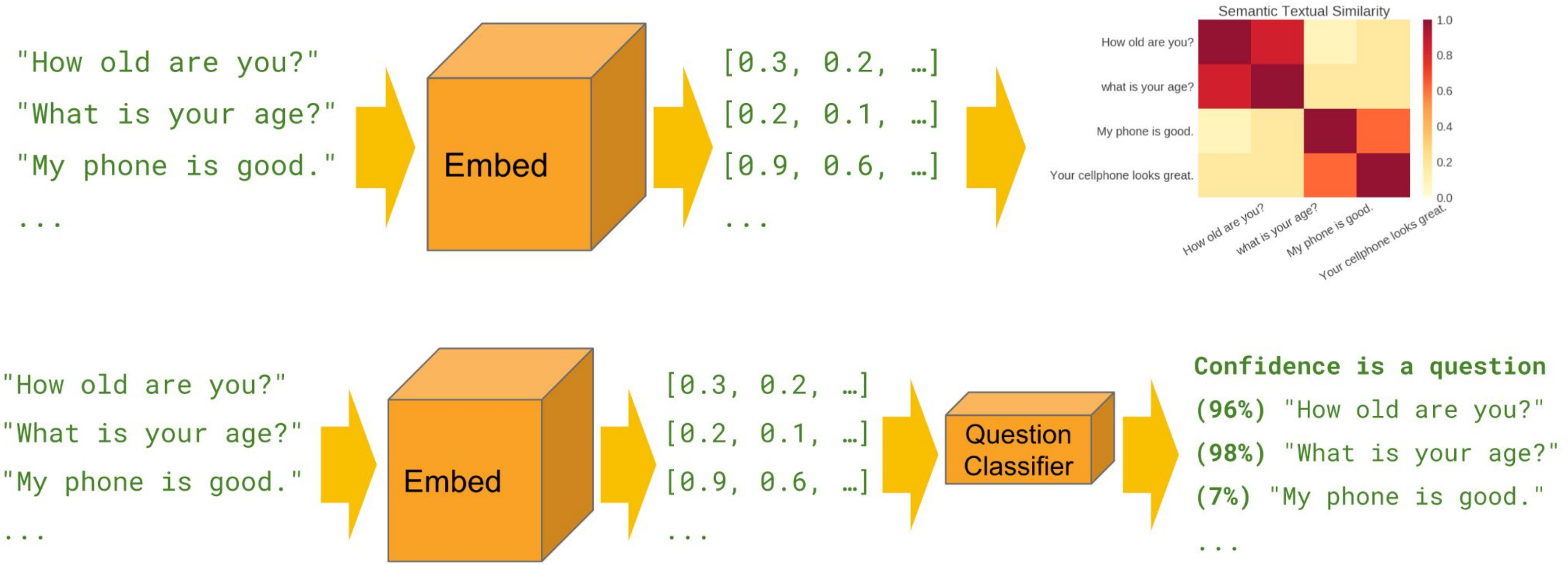

Source: [Tensorflow Hub]

5.Closing out

If you're interested in solving hard problems, reach out to us

- 100% remote and distributed
- From MIT, IST, DTU, etc
- Smart people all around

- amplemarket.com/carrers
- Or just come talk to us

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Thank you!

Duarte O.Carmo
ML Engineer
duarte@amplemarket.com

Olavo Bacelar
ML Engineer
olavo@amplemarket.com

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www.amplemarket.com