



Introducing Vectra E-commerce Search Embeddings

AI Foundation Model

MICES Berlin

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√ectra

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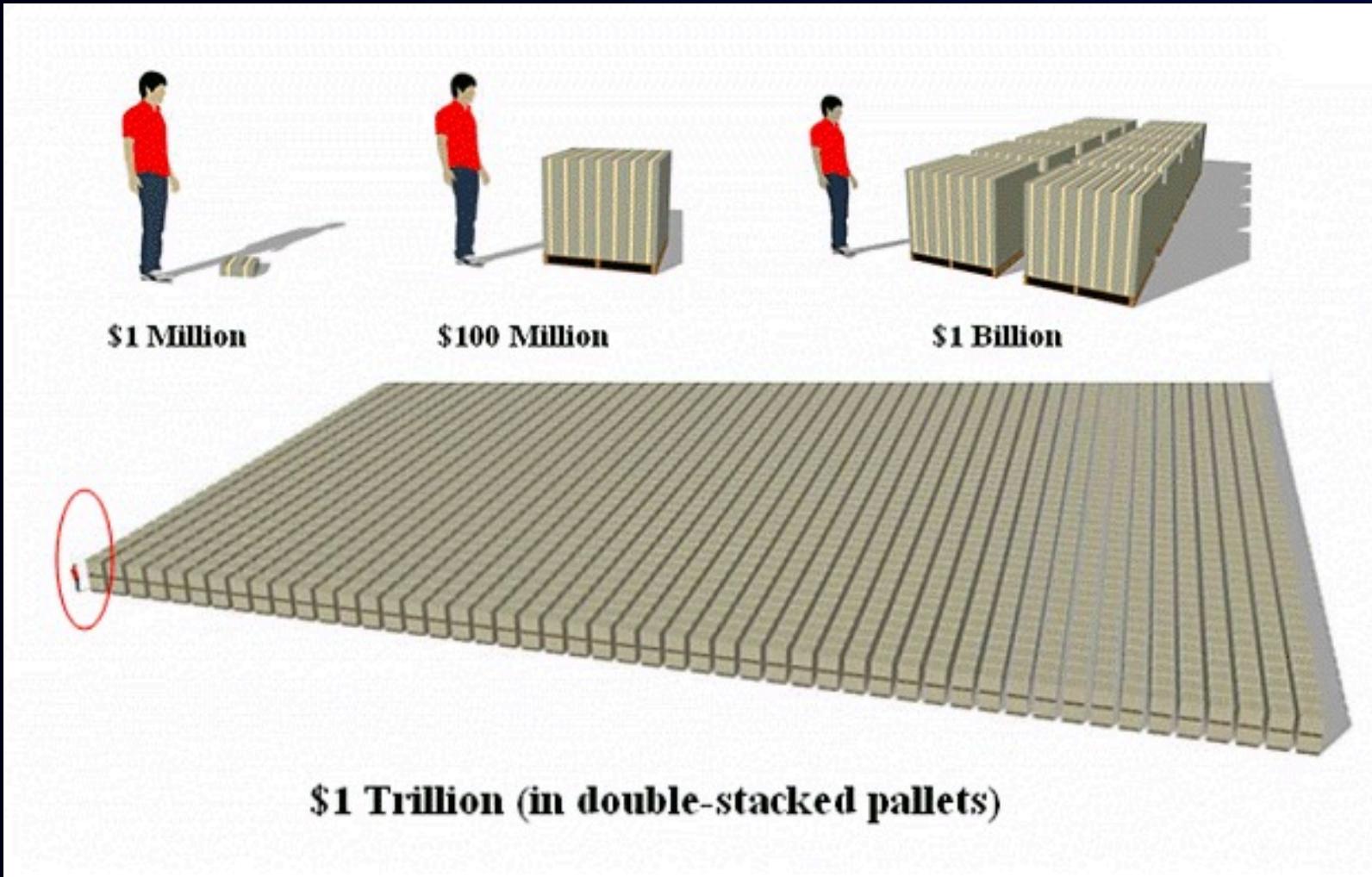
Vectra

An AI Foundation Model
Specifically for E-Commerce Search

Pre-Training Strategy

- **World Knowledge**
- **Tiny vectors (256 dim)**
- **SPEED (5ms)**
- **Separate ultra-fast query embedder**

Large Training Data (1 Trillion Tokens)



Quality comparison



all-miniLM-L6-v2

["shoe","men's","red"]

```
{  
  "product_type": "men's loafers",  
  "style": "slip-on dress shoes",  
  "color": {  
    "primary": "burgundy/wine red",  
    "material_appearance": "velvet",  
    "finish": "matte with subtle sheen"  
  },  
  "upper_details": {  
    "material": "velvet fabric",  
    "pattern": {  
      "type": "quilted",  
      "description": "diamond-shaped quilting pattern covering entire upper",  
      "texture": "raised, padded appearance creating dimensional effect"  
    },  
    "construction": "slip-on design with no laces or buckles"  
  },  
  "embellishment": {  
    "type": "metal medallion",  
    "location": "center front of vamp",  
    "design": "ornate crest or shield-shaped emblem",  
    "color": "silver/pewter tone",  
    "details": "appears to feature intricate engraving or embossed design"  
  },  
  "sole": {  
    "visible_portion": "black",  
    "material_appearance": "leather or synthetic",  
    "profile": "low-profile dress shoe sole"  
  },  
  "interior": {  
    "lining_color": "black",  
    "visible_branding": "partial text visible inside shoe"  
  },  
  "overall_aesthetic": {  
    "style_category": "luxury/formal",  
    "occasion": "formal events, evening wear, special occasions",  
    "design_influence": "European luxury slipper style"  
  },  
}
```

Case Study



vectra

Current solution

5:25

zucker



1.99 EUR*

Alpro Haferdrink Ohne
Zucker, 1L
1.99 EUR/l
[mehr Info](#)



1.69 EUR*

Heinz Tomato
Ketchup, 220ml
7.50 EUR/l
[mehr Info](#)



1.69 EUR*

Spinatsalat, 150g
11.21 EUR/kg
[mehr Info](#)



1.29 EUR*

Sweet Family Feinster
Zucker, 1kg
1.29 EUR/kg
[mehr Info](#)



2.19 EUR*

Sweet Family Brauner
Zucker, 1kg
2.19 EUR/kg
[mehr Info](#)



New smart search

5:26

zucker



1.99 EUR*

Diamond Feinster
Zucker, 1kg
1.99 EUR/kg
[mehr Info](#)



1.09 EUR*

Dr. Oetker Bourbon
Vanille Zucker, 24g
45.42 EUR/kg
[mehr Info](#)



1.29 EUR*

Sweet Family Feinster
Zucker, 1kg
1.29 EUR/kg
[mehr Info](#)



2.89 EUR*

Diamond Rohzucker
unverarbeitet, 500g
5.78 EUR/kg
[mehr Info](#)



2.19 EUR*

Sweet Family Brauner
Zucker, 1kg
2.19 EUR/kg
[mehr Info](#)



Search Abandonment



Implementation

- **Embed your catalog**
- **Start with simple Candidate Generation**
- **We want to hear what you build**



Announcing
vectra-micro (distilled model)
Free
for open source platform users

√ectra

Try out our fake shop



- <https://zalando.mariosbox.com>
- User: esattendee
- Pass: letmein

Get In Touch



Philippe Bouzaglou

