

*Machine
Learning
deployment
at*

**kupujem[®]
prodajem**

-showcase-

Bojan Leković, CEO

www.linkedin.com/in/bojanlekovic (feel free to connect with me)

Serbian (classifieds) market



- Pop: **7,2 mil**
- Internet pop: **4,18 mil**
- Of which **17,7%** mobile only
- Domestic players: KupujemProdajem, Infostud, AS-Ringier, Halooglasi

Small yet competitive

About KupujemProdajem

Izlogujte se | Početna | Najnoviji | Pretraži detaljno | Promocije oglasa | Baner reklama | KP Pregled 2016 | kp izlog

f | 8+ | in

kupujem prodajem

Samo do 22. marta
Dormeo ćebe sa srcima uz
1000 dinara uštede!

29% popusta

dormeo

Poručite odmah >

39.718 novih oglasa juče

Postavi oglas ▶

Moj kp ▶

Oglasi
Poruke
Ocene
Pratim (2)
Moj nalog
kp obnavljač
kp izlog
Prepaid (772 din)

Pretraži ☒ naslov ☐ tekst oglasa

Ranije pretrage ▼ Poništi Pretraži detaljno

Ključne reči ili ID oglasa (npr. #382719) Traži ▶

☆ Pratim (2)

Kategorija ▼ Mesto/Grad ▼ Cena/Zamena ▼ Traži ▶

Stvari (1.335.072) Usluge (2.880) kp izlozi (616)

kp preporučuje (5)

Total TV (Popust 7.747din)
TRIO paketi (Popust od 19.728din)
DUO-NET paketi (Popust od 14.490din)
D3i - TV preko Interneta (Popust 2.970din)
Total NET ADSL 20Mb/s (Popust 7.156din)
[Prikaži sve](#)

Automobili (8028)

Audi A4 2.5tdi 120kw (3.950,00 €)
Mercedes sprinter 211 (Dogovor)
Peugeot 205 1.7 (3.000 din)
BMW 530 E39 (4.400,00 €)
Gumene patosnice MAN F90,... (5.900 din)

Automobili | Delovi i alati (123920)

auto gume 185/70/14 (500 din)
Original stopke za BMW (1.200 din)
servo pumpa za vektru a (20,00 €)
Original stopke za BMW E ... (30,00 €)
Alu Felne 18 4x100 (300,00 €)

Audio (21563)

Sony cdp-XA20es sampanj (165,00 €)
CCA-421S-5M 3.5mm stereo ... (187 din)
Vintage SANSUI ES - 203 ... (35,00 €)
Yamaha RX-V640 6.1 A/V sa... (130,00 €)
Bang & Olufsen BEOVOX CX ... (2.000 din)

Audio | Vinili, CD i kasete (19657)

NBS - 24.03.2017.

kup	sred	prod
123,57	123,95	124,32

EUR ▼ > RSD ▼

100 = 12.394,55

SBB PRVIH 6 MESECI PO 1 DINAR

TRIO GOLD

PRUJAVI SE
samo za kp korisnike

Svi koji nisu planirali novi telefon sada neka promene odluku

Kuranji: Kraj, želim da se bavim drugim stvarima

< >

#1 general
classifieds in
Serbia

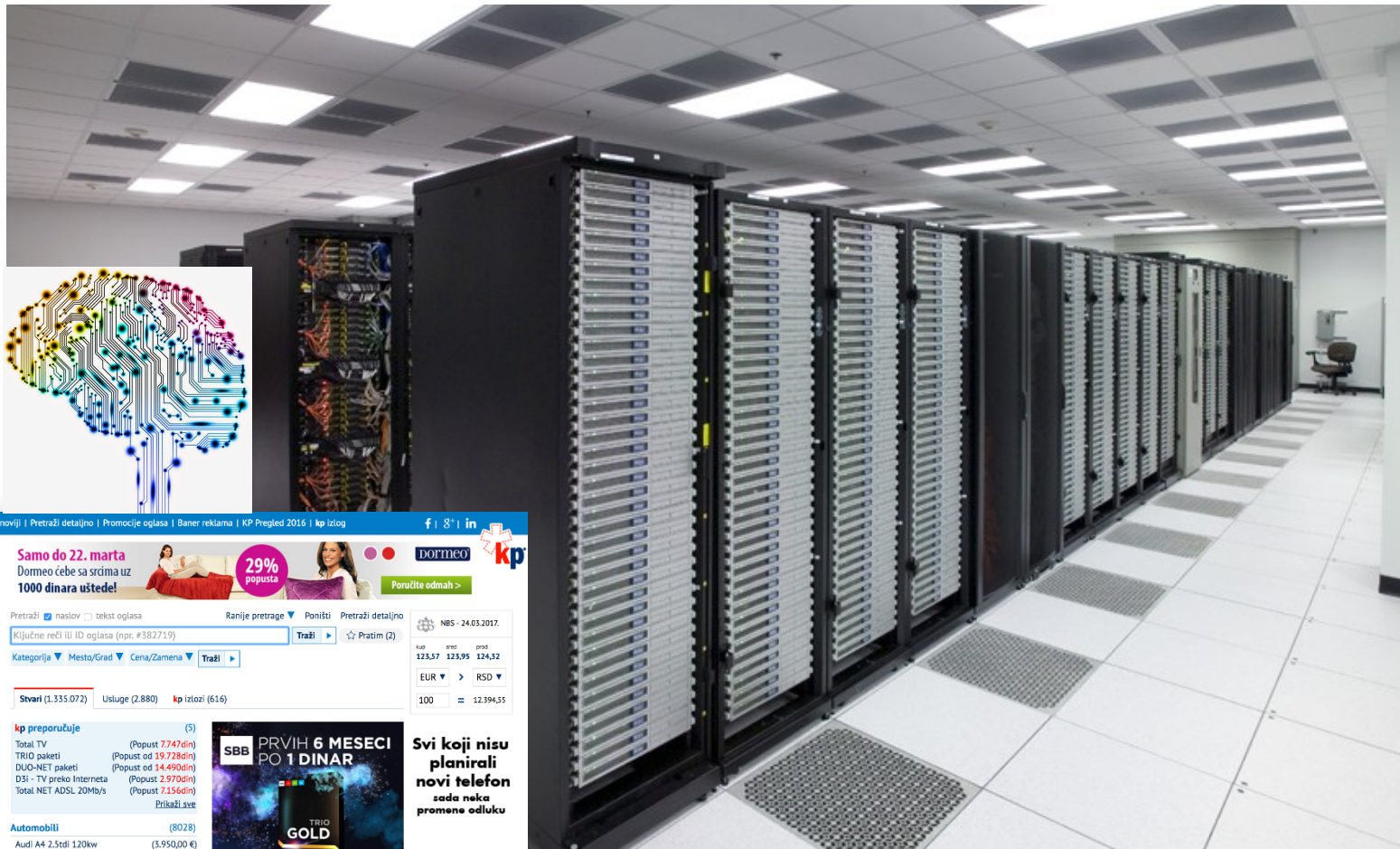
40.000 new ads
per day

14 million visits
per month

200 million
pageviews

160 mil EUR in
trade

What is Machine Learning?



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PRILUZI SE
Sve za kup. Nemačke

Svi koji nisu planirali novi telefon sada neka promene odluku

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NI ☐ NI-UŽIVO

Kuranji: Kraj, želim da se bavim drugim stvarima

Why is it interesting for us?

40.000 new ads per day - 10% misclassified

AGAINST RULES




Sve prijave ▼ Razlog Prijave: Sve prijave

Posted after (dd.mm.yyyy):

Posted before (dd.mm.yyyy):

Name:

< page 1 of 2 pages, total found actions 51 >

Img	Name	User	Prijavio / Razlog	Date
	Tele 21god	markofolije@outlook.com Marko Edit user	<p>dobrica dobricasavic66@gmail.com (ID: 653492) [edit user] IP: 37.220.74.85</p> <p>Zbog...</p> <p><i>prodaje tele od 21 godinu to je covek kao sto se vidi na slikama</i></p>	26.01.2015. 20:42h
	Dymatiz Iso 100 2,27kg	suplementizasve@gmail.com Suplementi.. Edit user	<p>IP: 37.19.108.23</p> <p>Zbog...</p> <p><i>prodavac nepostuje pravila o oglasavanju.ovaj oglas je postavljen pre 3 dana a takav isti i juce.znaci da duplira oglas.</i></p>	26.01.2015. 19:28h
	Iznajmljujem Ps3 super slim	jovanovicvesna04@gmail.com Vesna Jovanovic Edit user	<p>DJERA74 --- GameBox Nis dejandjeric23@yahoo.com (ID: 387548) [edit user] IP: 109.121.33.170</p> <p>Zbog...</p> <p>POGRESNA GRUPA ..</p>	26.01.2015. 19:22h

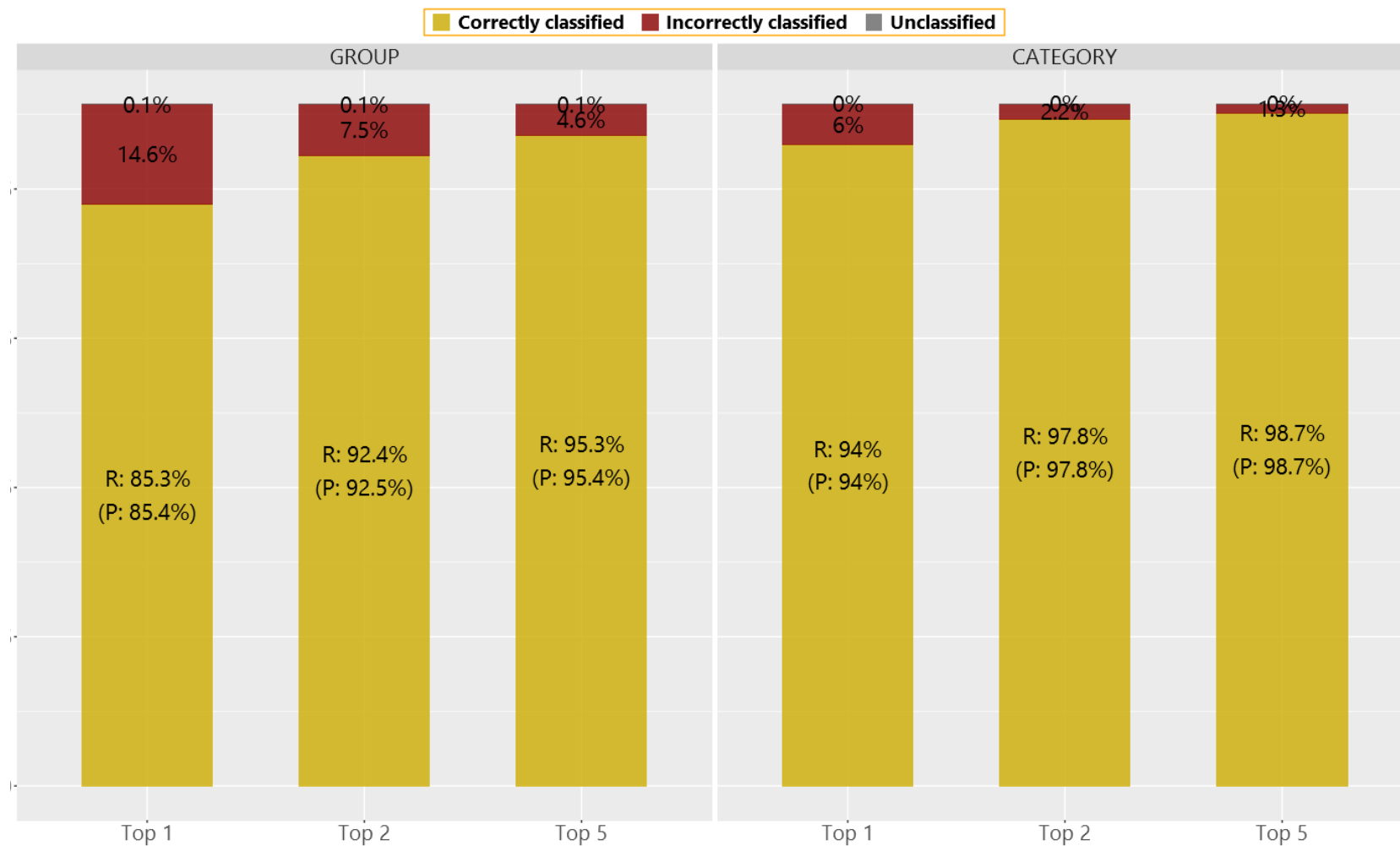
Business case specifics (for our market)

- Relatively low labor costs
- Less revenues than in the bigger markets
- Value of improved quality difficult to define

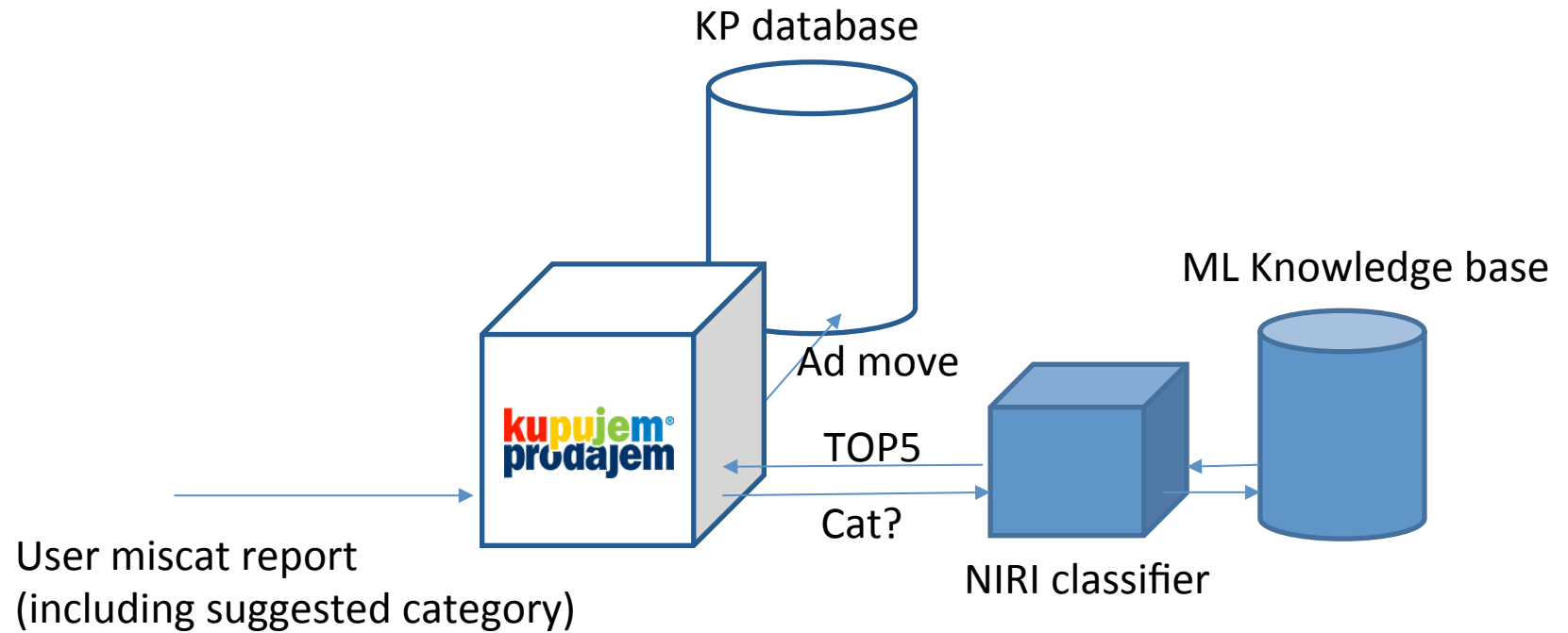
Possible areas of deployment

- Ads (re)classification (based on text and foto's)
- Misuse detection
- Information extraction (geo location, brand, condition, quantity, ...)

The pilot results (based on 22 million ads)



ML Solution architecture



Results and conclusions

- 50% immediate reduction in moderation efforts
- Step by step introduction in order to verify
- Consulting support of the ML partner precious
- ML promising for both quality increase as well moderation time reduction.

Invitation for cooperation

- Looking for partners to share ML knowledge and expertise
- Feel free to contact me on LinkedIn (www.linkedin.com/in/bojanlekovic)
- THANK YOU!