MREŽA ZNANJA

Ljubljana, 11.–13. oktober 2022

Podatki niso dovolj

Vladislav Rajkovič, prof. dr.

Fakulteta za organizacijske vede, Univerza v Mariboru

"DATA IS THE NEW GOLD"

Razlogi za drugačno vrednotenje podatkov:

- Metode umetne inteligence
  (strojno učenje, nevronske mreže, …)

- Velika količina podatkov

- Računalniška moč

PODATEK, INFORMACIJA, ZNANJE

S simboli lahko predstavimo vse
podatke tega sveta,
ne pa znanja.

SISTEMI ZA PODPORO ODLOČANJU

PODATKI

Napovedovanje incidence gripe

- **Centre for Disease Control (CDC),** ZDA
  objavlja podatke o incidenci gripe z **2-tedensko zamudo**

- **Google Flu Trends (GFT)** na osnovi podatkov iz preteklosti
  napove incidenco gripe praktično **v realnem času**

- omogoča ustreznejše odzive

Napovedovanje incidence gripe
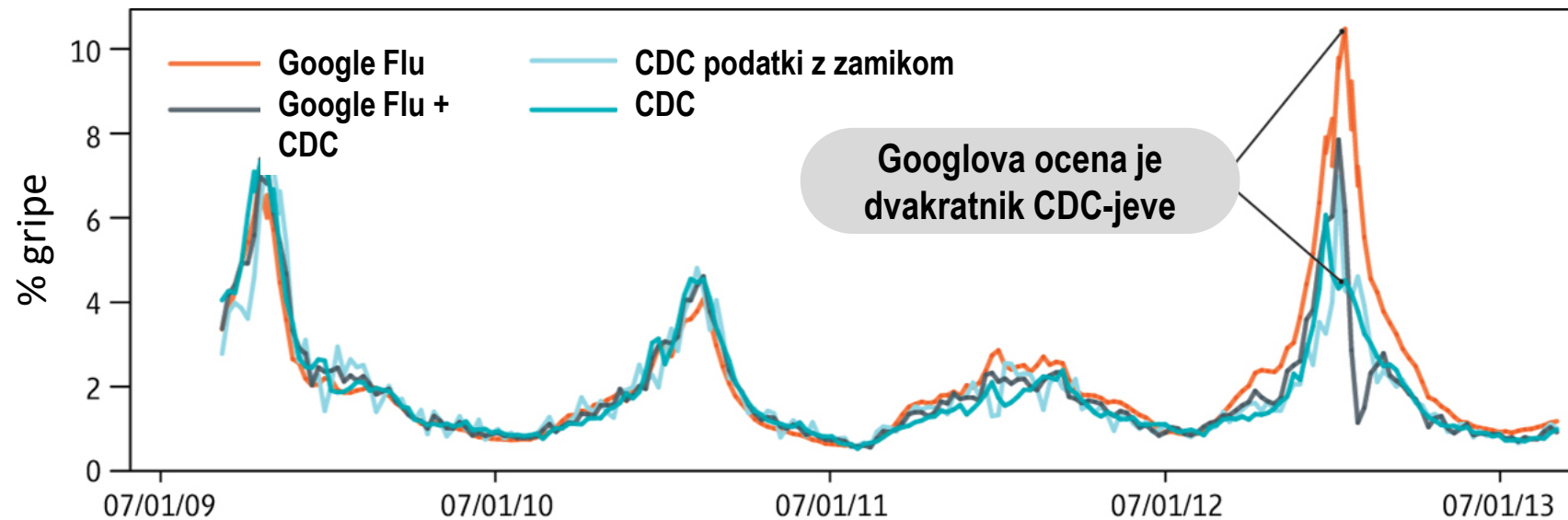
D. Lazer et al. (2014) The Parable of Google Flu: Traps in Big Data Analysis.
Science 343 (6176): 1203-1205.

Management parkinsonove bolezni

Zbrani podatki

| case | | | | | | | Input Attributes | | | | | | | Likelihood of Change | | |
	bradykinesia	tremor	gait	dyskinesia	on/off	sleep	cog. disorder	impulsivity	depression	constipation	age	employment	rigidity	care_plan	levodopa	agonist
1	better	better	better	better	same	same	better	worse	same	same	55	unemployed	same	3,0	6,0	5,0
2	same	better	better	worse	worse	same	same	same	better	worse	75	unemployed	worse	6,0	6,0	6,0
3	worse	same	worse	same	same	same	same	worse	same	worse	55	unemployed	same	7,0	7,0	4,0
4	same	worse	worse	same	same	worse	same	better	better	same	55	employed	same	4,5	6,0	7,0
5	same	same	worse	worse	same	same	better	better	worse	same	75	unemployed	better	5,5	6,0	6,5
6	better	worse	same	better	better	same	same	better	worse	worse	55	unemployed	better	6,5	6,0	6,5
7	better	worse	same	same	worse	worse	better	same	same	better	75	unemployed	better	6,0	6,0	6,5
8	worse	worse	same	better	same	better	same	better	same	better	75	unemployed	worse	8,0	8,0	6,0
9	same	worse	better	same	same	better	better	same	worse	worse	55	employed	same	6,5	6,0	7,0
10	same	better	worse	same	better	better	worse	better	same	same	55	unemployed	worse	6,0	7,0	6,0
11	same	better	same	better	same	worse	better	worse	worse	better	55	unemployed	worse	6,5	7,0	4,5
12	worse	better	same	worse	same	worse	same	same	same	same	55	employed	better	6,0	6,0	6,5
13	same	better	better	same	worse	same	worse	better	worse	better	55	employed	better	6,5	6,0	6,0
14	better	same	same	worse	worse	better	better	better	same	worse	55	employed	worse	6,0	6,0	8,0
15	same	better	worse	worse	better	better	same	same	worse	better	55	unemployed	same	4,0	6,0	6,0
16	better	same	same	better	same	same	worse	same	better	better	55	employed	worse	3,5	6,5	6,0
17	same	same	same	same	worse	better	same	worse	better	better	55	unemployed	better	6,5	6,5	5,0
18	better	better	same	same	same	worse	worse	better	better	worse	75	unemployed	same	3,0	6,0	6,0
19	worse	same	same	same	worse	better	worse	same	worse	same	75	unemployed	same	7,0	7,5	6,0
20	worse	worse	worse	worse	worse	worse	worse	worse	worse	worse	55	unemployed	worse	11,0	8,5	7,5
21	same	same	better	better	better	worse	worse	same	same	worse	55	unemployed	better	5,0	6,0	6,0
22	same	same	better	worse	better	worse	better	better	better	better	55	unemployed	same	4,0	6,0	6,0
23	better	worse	better	worse	same	better	worse	worse	better	same	55	unemployed	better	7,0	6,0	5,0
24	worse	worse	same	same	better	same	better	same	better	same	55	unemployed	worse	8,0	7,0	8,0

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ODLOČITVENO DREVO
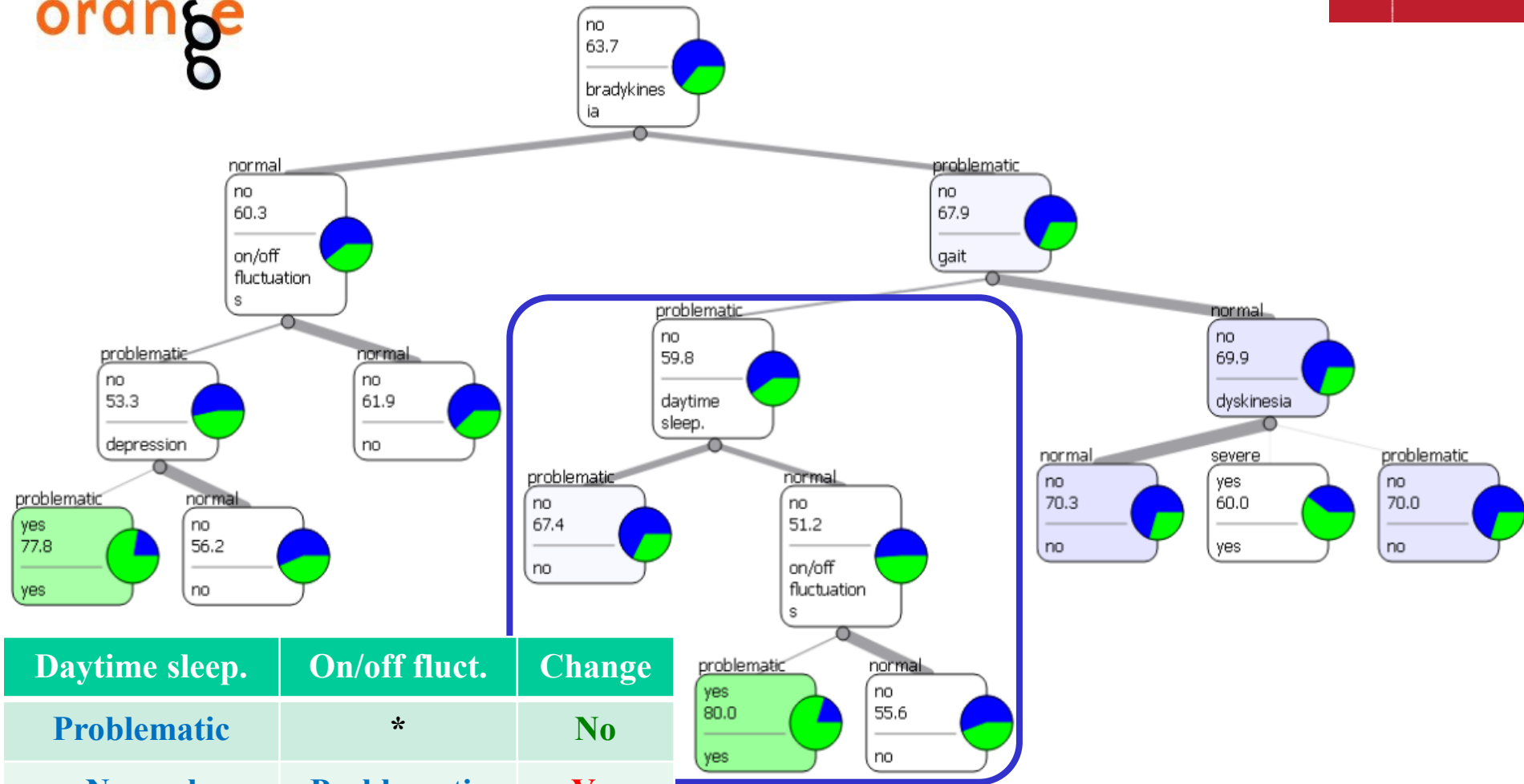
Daytime sleep.	On/off fluct.	Change
Problematic	*	No
Normal	Problematic	Yes
Normal	Normal	No
Problematic	Problematic	???

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Ekspertni sistem

Struktura

Odločitvena pravila

motor

non-motor

care plan

epidemiologic
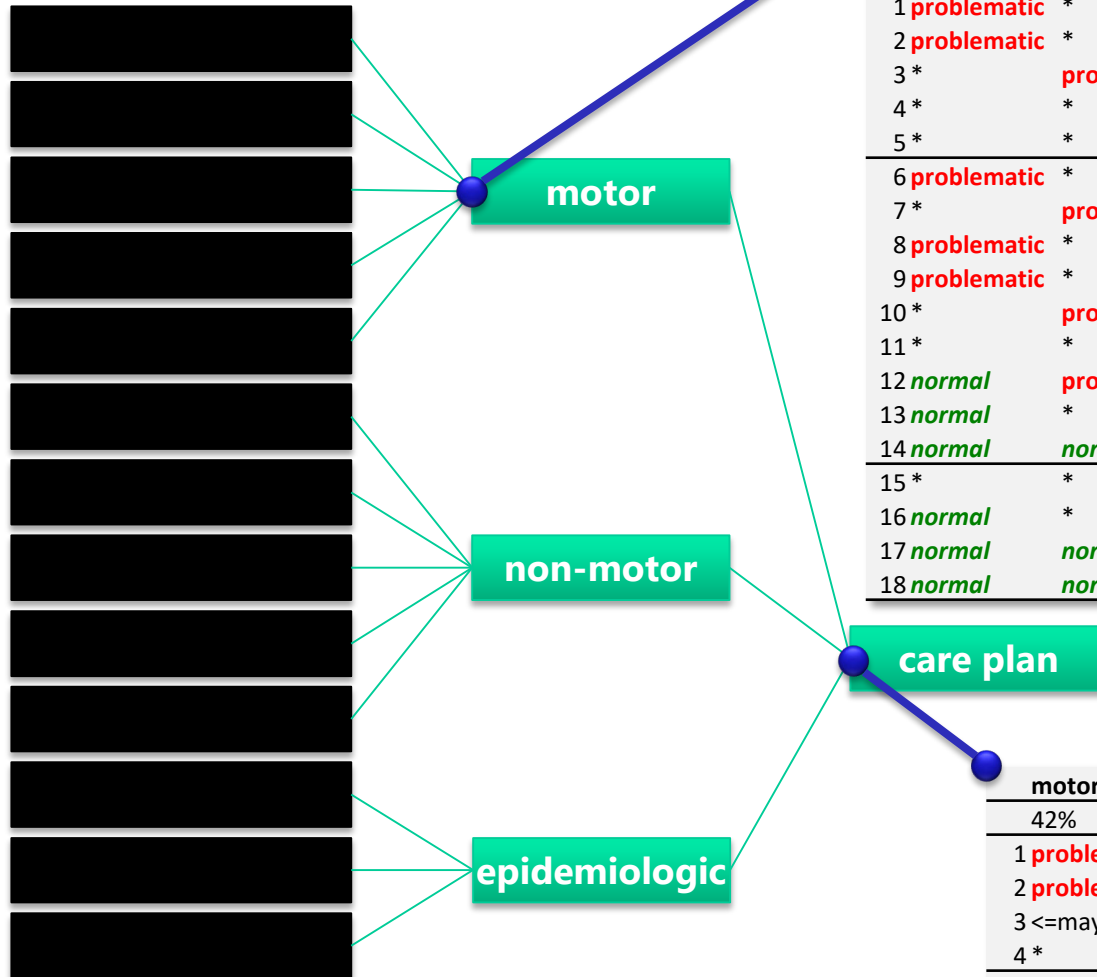
	bradykinesia	tremor	gait	dyskinesia	on/off fluctuations	motor
	14%	6%	30%	28%	22%	
1	problematic	*	problematic	<=problematic	*	problematic
2	problematic	*	problematic	*	problematic	problematic
3	*	problematic	problematic	*	problematic	problematic
4	*	*	problematic	<=problematic	problematic	problematic
5	*	*	*	severe	*	problematic
6	problematic	*	problematic	normal	normal	maybe
7	*	problematic	problematic	normal	normal	maybe
8	problematic	*	normal	problematic	*	maybe
9	problematic	*	normal	>=problematic	problematic	maybe
10	*	problematic	normal	>=problematic	problematic	maybe
11	*	*	normal	problematic	problematic	maybe
12	normal	problematic	problematic	>=problematic	normal	maybe
13	normal	*	problematic	problematic	normal	maybe
14	normal	normal	problematic	normal	problematic	maybe
15	*	*	normal	normal	normal	normal
16	normal	*	normal	>=problematic	normal	normal
17	normal	normal	*	normal	normal	normal
18	normal	normal	normal	normal	*	normal

	motor	non-motor	epidemiologic	care plan
	42%	37%	21%	
1	problematic	<=maybe	*	change
2	problematic	*	active	change
3	<=maybe	problematic	*	change
4	*	problematic	active	change
5	problematic	normal	passive	maybe
6	maybe	maybe	*	maybe
7	maybe	>=maybe	active	maybe
8	normal	problematic	passive	maybe
9	>=maybe	normal	passive	no_change
10	normal	>=maybe	*	no_change

M. Bohanec

Miselna interpretacija podatkov
vodi človeka do
znanja in razumevanja