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entropia

Gain (Patron) ≈ 0,541 bits
Gain (Type) = 0 bit

dla Alternate

	p	n
yes	3	3
no	3	3

× $B_{yes} = B(\frac{3}{6}) = B(\frac{1}{2}) = -(\frac{1}{2}\log_2(\frac{1}{2}) + (1-\frac{1}{2})\log(1-\frac{1}{2}) =$
$= -((-\frac{1}{2}) + (-\frac{1}{2})) = 1$

× $B_{no} = B(\frac{3}{6}) = B(\frac{1}{2}) = 1$

~~Reminder~~

$Gain(AH) = 1 - Reminder(AH)\ (B(\frac{6}{12}) - Reminder(AH)) =$
$= 1 - [\frac{6}{12} \cdot 1 + \frac{6}{12} \cdot 1] = 1 - 1 = 0$ bit

dla Bar

	p	n
yes	3	3
no	3	3

To samo co w AH

Gain (Bar) = 0 bit

Lolla Friday

	p	n
yes	2	3
no	4	3

$\times B_{yes} = B(\frac{2}{5}) = -(\frac{2}{5}\log_2(\frac{2}{5}) + \frac{3}{5}\log_2(\frac{3}{5})) = -((-0,528)+(-0,442))$
$= 0,97$

$\times B_{no} = B(\frac{4}{7}) = -(\frac{4}{7}\log_2(\frac{4}{7}) + \frac{3}{7}\log(\frac{3}{7})) = -((-0,461)+(-0,523)) = 0,984$

$Gain(Fri) = 1 - Reminder(Fri) = 1 - [\frac{5}{12} \cdot 0,97 + \frac{7}{12} \cdot 0,984] =$
$1 - [0,404 + 0,574] = 0,022$ bit

Ale Hungry

	p	n
yes	5	2
no	1	4

$B_{yes} = B(\frac{5}{7}) = -(\frac{5}{7}\log_2(\frac{5}{7}) + \frac{2}{7}\log_2(\frac{2}{7})) = -((-0,346) +$
$(-0,516)) = 0,762$

$B_{no} = B(\frac{1}{5}) = -(\frac{1}{5}\log_2(\frac{1}{5}) + \frac{4}{5}\log_2(\frac{4}{5})) =$
$-((-0,464)+(-0,257)) = 0,721$

$Gain(Hun) = 1 - Reminder(Hun) = 1 - [\frac{7}{12} \cdot 0,762 + \frac{5}{12} \cdot 0,721] =$
$1 - [0,444 + 0,3] = 0,256$ bit

Dla Price

	p	n
$	3	0
$$	2	1
$$$	1	2

* $B_{\$} = B(\frac{3}{7}) = -(\frac{3}{7}\log_2(\frac{3}{7}) + \frac{4}{7}\log_2(\frac{4}{7})) =$
$-((-0,523) + (-0,461)) = 0,984$

* $B_{\$\$} = B(\frac{2}{2}) = -(1\log_2(1) + 0\log_2(0)) =$
$-(0+0) = 0$

* $B_{\$\$\$} = B(\frac{1}{3}) = -(\frac{1}{3}\log_2(\frac{1}{3}) + \frac{2}{3}\log_2(\frac{2}{3})) =$
$-((-0,528) + (-0,389)) = 0,917$

$Gain(Price) = 1 - [\frac{7}{12} \cdot 0,984 + \frac{2}{12} \cdot 0 + \frac{3}{12} \cdot 0,917] =$
$1 - [0,574 + 0,229] = 0,197$ bit

Dla Rain

	p	n
yes	3	2
no	3	4

$B_{yes} = B(\frac{3}{5}) = -(\frac{3}{5}\log_2(\frac{3}{5}) + \frac{2}{5}\log_2(\frac{2}{5})) =$
$-((-0,442) + (-0,528)) = 0,97$

$B_{no} = B(\frac{3}{7}) = 0,984$ taki sam jak wyżej

$Gain(Rain) = 1 - [\frac{5}{12} \cdot 0,97 + \frac{7}{12} \cdot 0,984] =$
$1 - [0,404 + 0,574] = 0,022$ bit

dla Res

	p	n
yes	3	2
no	3	4

$B_{yes} = B(\frac{3}{5}) = 0,97$
$B_{no} = B(\frac{3}{7}) = 0,984$ — powtarzają się (już były)

$Gain(Res) = 1 - [\frac{5}{12} \cdot 0,97 + \frac{7}{12} \cdot 0,984] =$
$1 - [0,404 + 0,574] = 0,022$ bit

dla Est

	p	n
0-10	4	2
10-30	1	1
30-60	1	1
>60	0	2

$B_{0-10} = B(\frac{4}{6}) = -(\frac{4}{6}\log_2(\frac{4}{6}) + \frac{2}{6}\log_2(\frac{2}{6})) =$
$((-0,389) + (-0,528)) = 0,917$
$B_{10-30} = B(\frac{1}{2}) = 1$
$B_{30-60} = B(\frac{1}{2}) = 1$
$B_{>60} = B(\frac{0}{2}) = -(0\log(0) + 1\log_2(1)) = 0$

$Gain(Est) = 1 - [\frac{6}{12} \cdot 0,917 + \frac{2}{12} \cdot 1 + \frac{2}{12} \cdot 1 + \frac{2}{12} \cdot 0] =$
$1 - [0,458 + 0,166 + 0,166] = 0,211$ bit

Gain (Patron) = 0,541
Gain (Type) = 0
Gain (Alt) = 0
Gain (Bar) = 0
Gain (Fri) = 0,022
Gain (Hun) = 0,256
Gain (Price) = 0,197
Gain (Rain) = 0,022
Gain (Res) = 0,021
Gain (Est) = 0,021

1
6
6
6
4
2
3
4
4
5

Przykładowa ścieżka:

I Patron - Hun - Price - Fri - Est

Patron - Hun - Price - Fri - Rain - Res - Est - Type - Alt - Bar

Najważniejsze atrybuty

Patron, Hun, Price