Mobile Safety

Android

April 6th,2017

I. Matching Algorithm

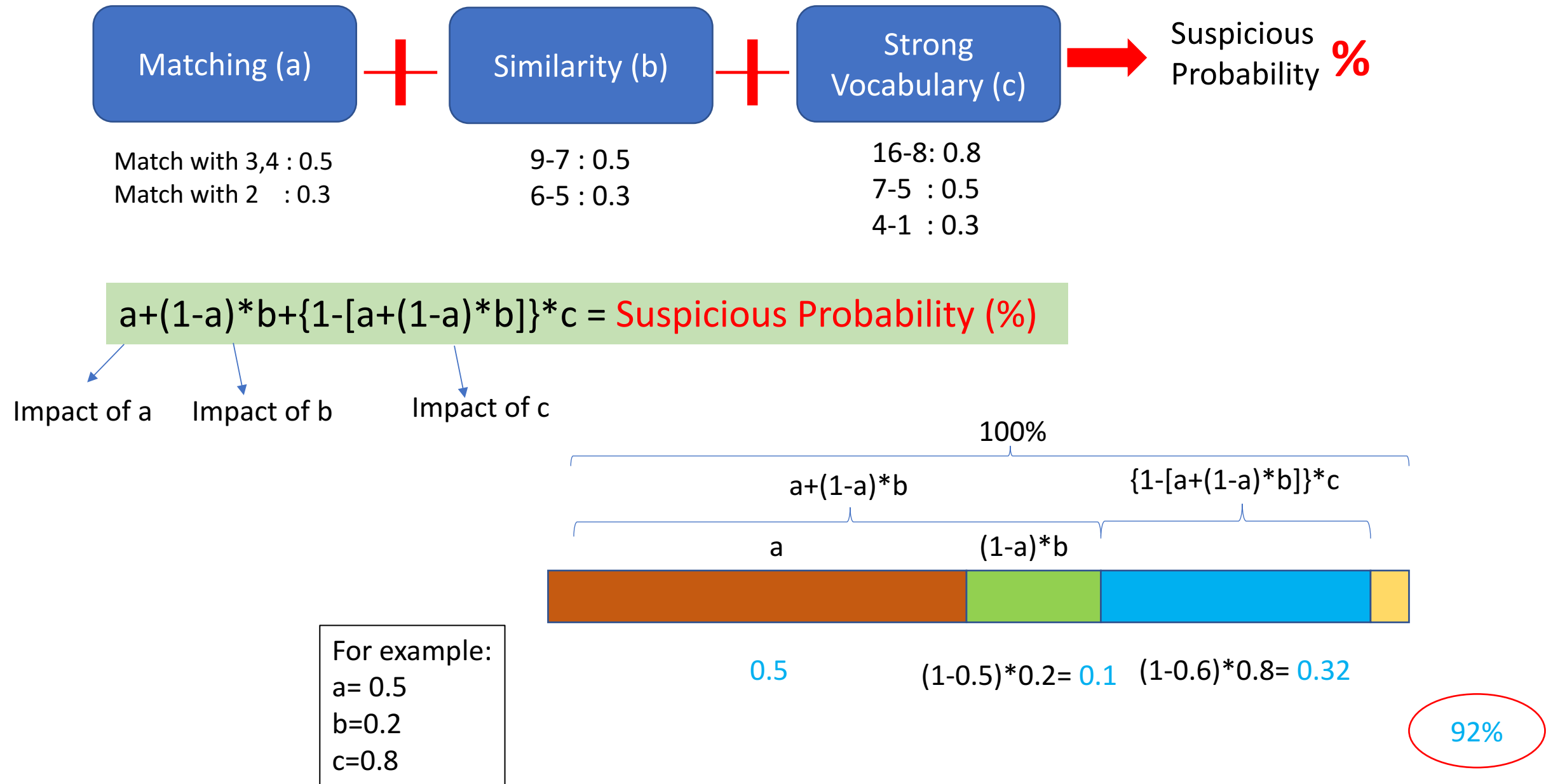|	Matched	Total
"Everyone"	3096	28974
Total	3826	36927

iOS "12+", "17+": 280
iOS "9+": 160
iOS "4+": 2656

II. Similarity Algorithm – number of suspicious app under different threshold

Threshold	Freq + Control	Occur + Control	Tfidf + Control	Freq + All	Occur + All	Tfidf + All		
9	16	21	25	57	36	58		
8	69	51	80	165	111	159	}	0.5
7	182	116	190	323	270	321		
6	370	243	392	576	497	594	}	0.3
5	701	484	751	992	861	1028		

III. Ensemble 3 Algorithms

Matching (a) ─┼─ Similarity (b) ─┼─ Strong Vocabulary (c) ➡ Suspicious Probability **%**

Match with 3,4 : 0.5
Match with 2   : 0.3

9-7 : 0.5
6-5 : 0.3

16-8: 0.8
7-5 : 0.5
4-1 : 0.3

$a+(1-a)*b+\{1-[a+(1-a)*b]\}*c$ = Suspicious Probability (%)

Impact of a   Impact of b   Impact of c

100%

$a+(1-a)*b$ $\{1-[a+(1-a)*b]\}*c$

a   (1-a)*b

0.5   (1-0.5)*0.2= 0.1   (1-0.6)*0.8= 0.32

For example:
a= 0.5
b=0.2
c=0.8

92%

Compared with an Average approach

1. (a+b+c)/3

	a	b	c	
1)	0.9	0	0	0.3
2)	0.3	0.3	0.3	0.3

2. (a+b+c)/(number of non-zeros)

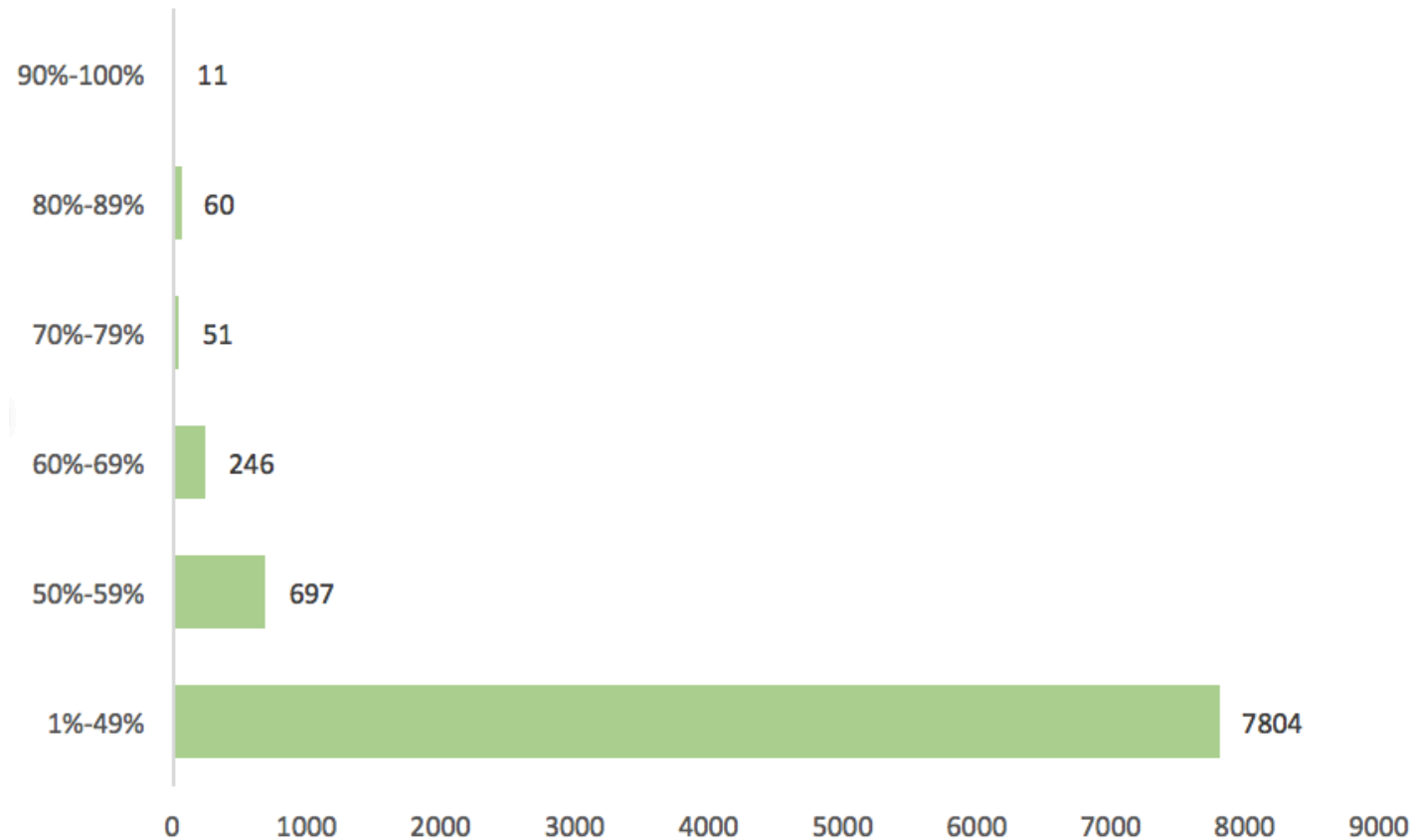|	a	b	c	
1)	0.9	0.1	0	0.5
2)	0.5	0	0	0.5

Will not show the strong suspicious probability

Suspicious Apps

name	sub_category	maturity	maturity	description	a value	b value	c value	probability
Ultimate Gun Simulator	Simulation	Everyone		Ultimate Gun Simulator perfect gun app with	0.5	0.3	0.8	93.0%
Weapon simulator	Simulation	Everyone		Weapons Simulator is the best game about g	0.5	0.3	0.8	93.0%
Black Ops Shooting Range 3D	Simulation	Everyone		Discover the hidden marksman inside you ge	0	0.5	0.8	90.0%
FRONTLINE COMMANDO 2017	Action	Everyone	Mild Fantasy	Brace yourself for the best first person shoot	0	0.5	0.8	90.0%
Full Moon Wolf Slot machines	Casino	Everyone		We launched for people who love to live on t	0	0.5	0.8	90.0%
Gun Club 2	Action	Everyone		GUN SPECIAL ALL THEME PACKS 50% OFF! W	0.5	0	0.8	90.0%
Modern Little Hunter	Arcade	Everyone		Step into the action as the latest installment	0	0.5	0.8	90.0%
Real Shooting Army Training	Action	Everyone		Aim and Shoot! Modern Army Commando W	0	0.5	0.8	90.0%
Shooting Targets	Sports	Everyone		Are you crazy about guns and snipers? Then	0	0.5	0.8	90.0%
Sniper Action School	Action	Everyone	Mild Fantasy	Sniper Action School is an interactive shoote	0	0.5	0.8	90.0%
Traffic Sniper Shooter	Action	Everyone		Aim and Shoot! Realistic graphics and amazin	0	0.5	0.8	90.0%
Wild Hunter	Adventure	Everyone		Wild Hunter is a complete action pack shooti	0.5	0.5	0.5	87.5%
Air Fighter: Airplane Shooting	Action	Everyone		Fight the wicked goblin invaders and beat the	0	0.3	0.8	86.0%
Gun Builder Custom Guns Pro	Simulation	Everyone		Start your journey through the world of weap	0	0.3	0.8	86.0%
Gun Camera: Augmented Reality	Action	Everyone	Mild Fantasy	Augmented Shooter in Augmented Reality is	0	0.3	0.8	86.0%
Gun Sim Weapons	Simulation	Everyone		Gun Sim Weapons perfect gun app with big a	0	0.3	0.8	86.0%
Guns & Cowboys: Bounty Hunter	Action	Everyone		Theres a new sheriff in town! Outlaws and ba	0	0.3	0.8	86.0%
Guns simulator	Simulation	Everyone		Do you like guns sound? Realistic Guns sound	0	0.3	0.8	86.0%
Guns: Shooting Range	Action	Everyone		Guns: Shooting Range is an awesome weapor	0	0.3	0.8	86.0%
Gunslinger Ghostrider Bullseye	Role Playing	Everyone		What happens when an western gunslinger d	0	0.3	0.8	86.0%
Metal Shooter Super Soldiers	Action	Everyone		Soldiers Gun contra classic is a game take yo	0	0.3	0.8	86.0%
Modern Army Strike	Action	Everyone	Mild Fantasy	Modern Army strike throws a shadow of airp	0	0.3	0.8	86.0%
Prison Escape Jail Breakout 3D	Role Playing	Everyone		Prison Escape Jail Breakout 3D simulator, is a	0	0.3	0.8	86.0%
Real Shooting Gun Simulator	Simulation	Everyone		Welcome to the world of Weapons, for your	0	0.3	0.8	86.0%
Shark Hunter 2017	Action	Everyone		Get ready hunting the sharks in the Deep oce	0	0.3	0.8	86.0%
SimGun2 Custom	Simulation	Everyone		Total 91 guns is free now. Welcome to custo	0	0.3	0.8	86.0%
Sky Runner Balloons Fight	Arcade	Everyone		If you are one of a favorite retro funny game:	0	0.3	0.8	86.0%
Supermarket Prisoner Escape 3D	Role Playing	Everyone		Some dangerous gangsters and prisoners spe	0	0.3	0.8	86.0%
Survival ONLINE: War at Island	Action	Everyone		Welcome to online battlefield! Grab your gur	0	0.3	0.8	86.0%
Backgammon	Board	Everyone		Backgammon is one of the oldest board game	0.5	0.5	0.3	82.5%

Suspicious Probability

	0%	1%-49%	50%-59%	60%-69%	70%-79%	80%-89%	90%-100%	total
	20105	7804	697	246	51	60	11	**28974**

- 1. CACM magazine (3000 words)
- -download papers
- 2. data list (each algorithm 200) ensemble: voting, avg, my ensemble
- 3. MTurk