Golden Age of RTB

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From Madison Avenue to Wall Street

USER

1.Visit to Publisher

12.Displays Ad

Advertiser's
Ad server

11.Serves Ad

10.Calls Ad Tag, Returns Winning CPM

Publisher Website

9.Offer To Publisher Winner's Ad Tag, Winner's 2nd Price CPM (i.e.,Payout to Publisher)

2.Calls RTB Service Provider

Ad Exchange
RTB Service
Provider's Bid Server and Provider's Auction Server

8.Bid CPM, Ad Tag

3.Query/Request to Real Time Bidder(User ID,Partner Provided Data,User IP)

DSP

7.Bid Price (CPM)

Advertiser's
RTB Bid Listener

Advertiser's
RTB Rule Engine

4. (UserID, Partner Provided Data, User IP)

5. User ID
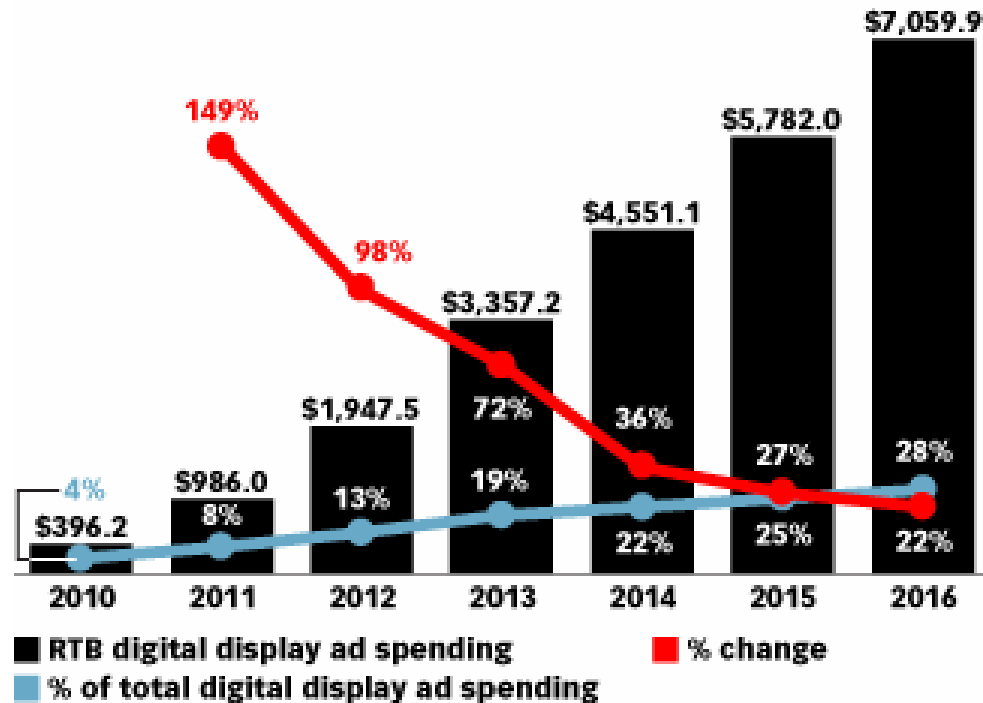
6.Advertiser's User Data

Advertiser's
User Data Storage

US Real-Time Bidding (RTB) Digital Display Ad Spending, 2010-2016

millions, % change and % of total digital display ad spending

1M/2B

RTB digital display ad spending
% change
% of total digital display ad spending

Note: includes all display formats served to all devices
Source: eMarketer, Nov 2012

146873   www.eMarketer.com

www.ipinyou.com   精 准 定 位 受 众   智 能 优 化 传 播
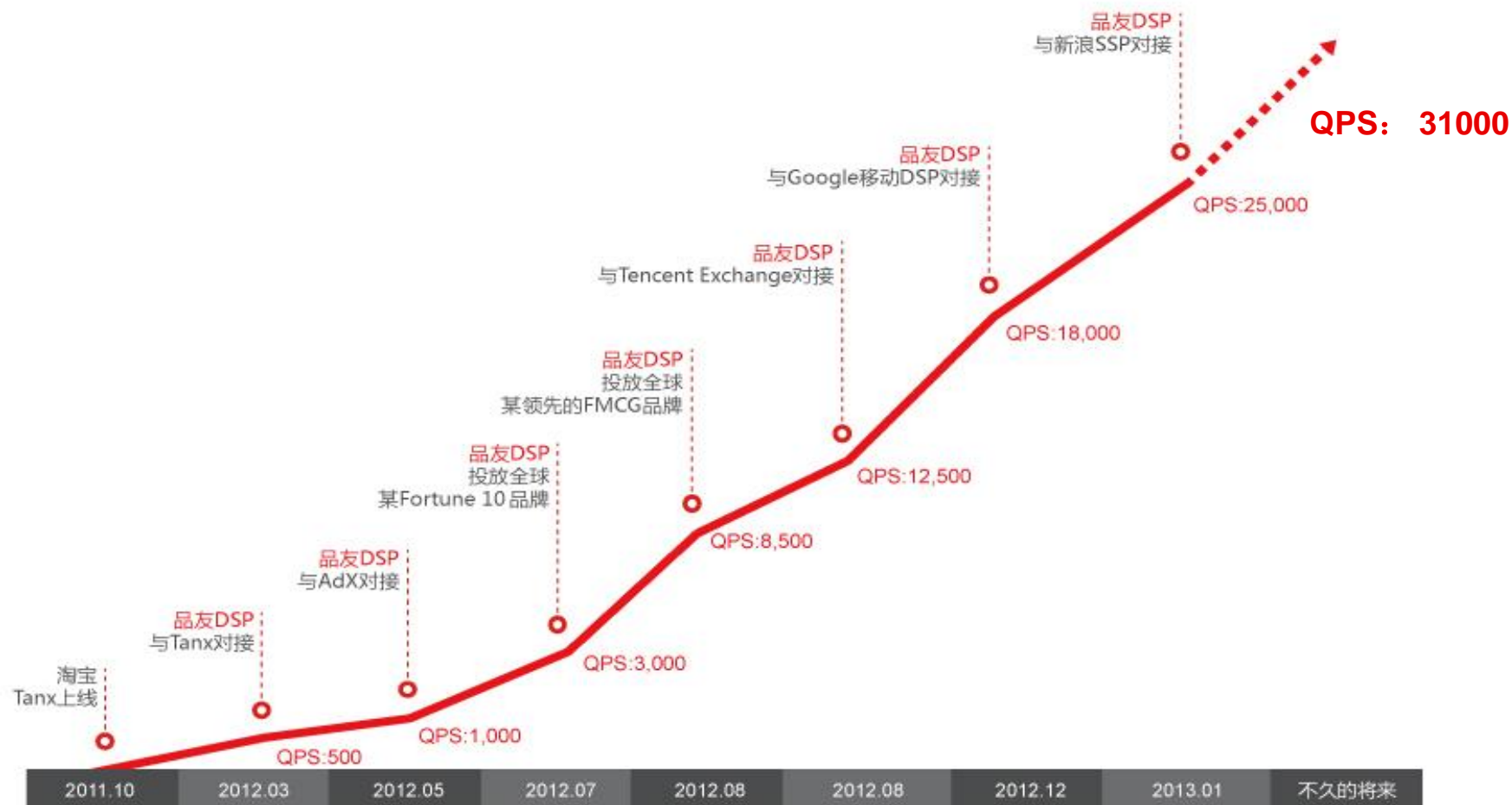
Winning Rate
Clickthrough Rate
Second-Jump Rate
Conversion Rate

$$A^* = argmax\ CPC\ {}^*p(U_i,\ P_j,\ A_k)$$

精准定位受众 智能优化传播

Figure 1. The logistic function, with z on the horizontal axis and $f(z)$ on the vertical axis

$$P(A|B) = \frac{P(B|A)P(A)}{P(B)}$$

weibo.com/mathematicalculture

CHAOS → BLOCK-MODELING → ORDER
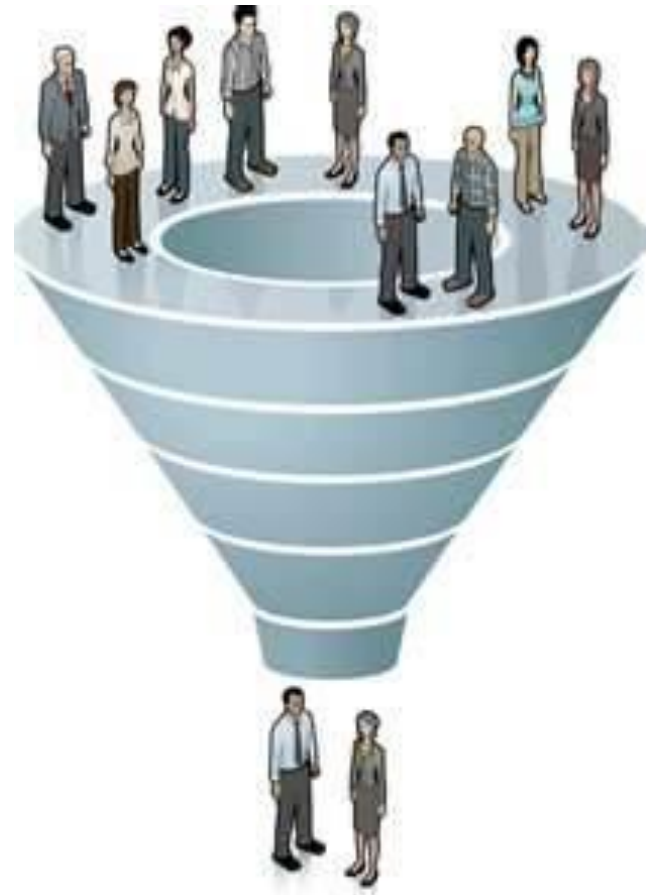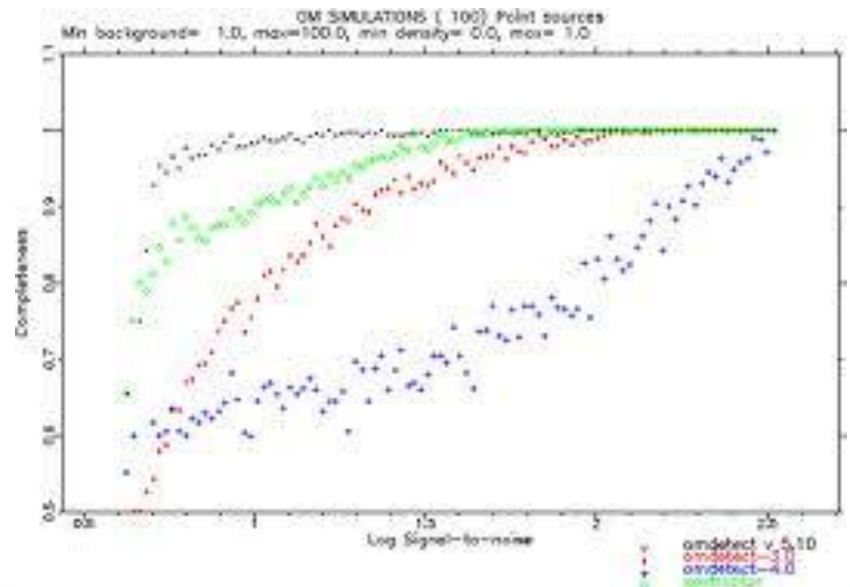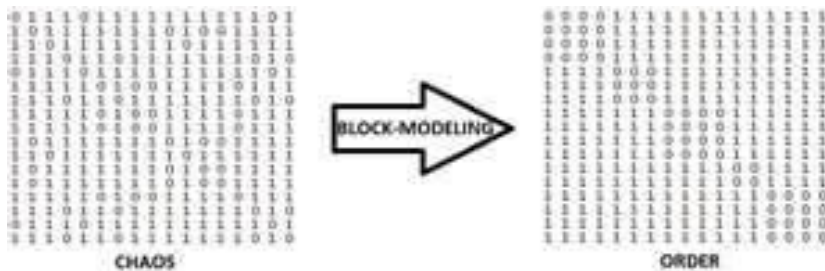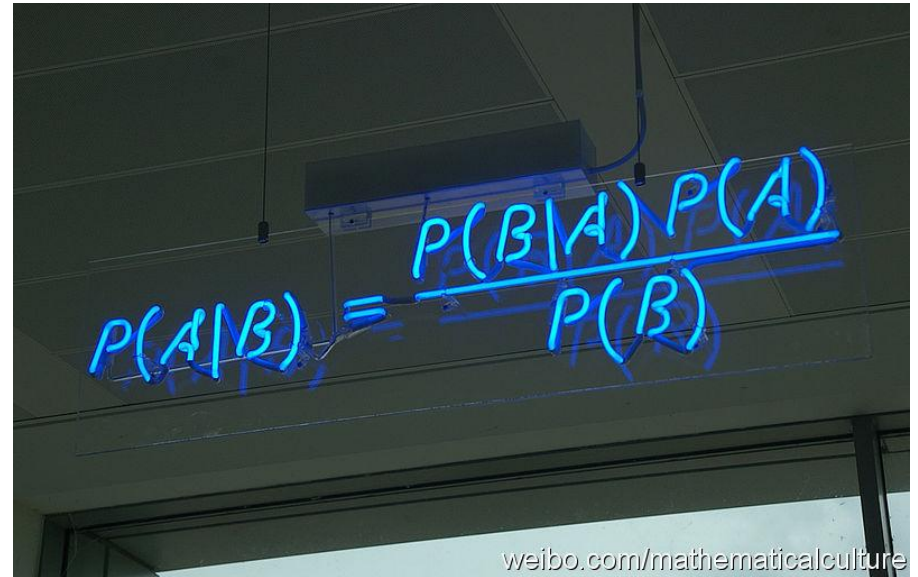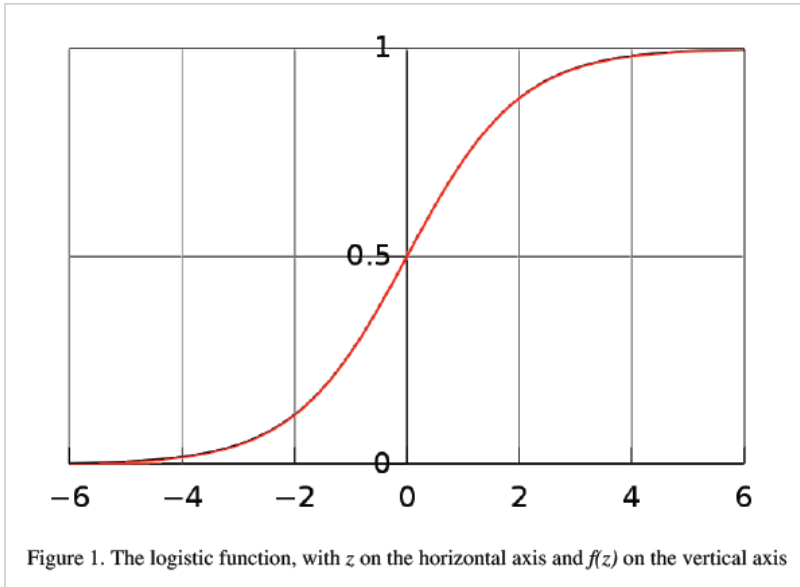
Data

Manage Your Audience

- **Digital**

- **Central**

- **Smart**

bluekai

bluekai

exelate

Turn

krux

brilig

Demdex

BRIGHTTAG
One for All

ACXIOM

datalogix

Red Aril

Data Acquisition

Audience Management

Access control & data security

Tag Management (optional)

Audience Analytics in real-time

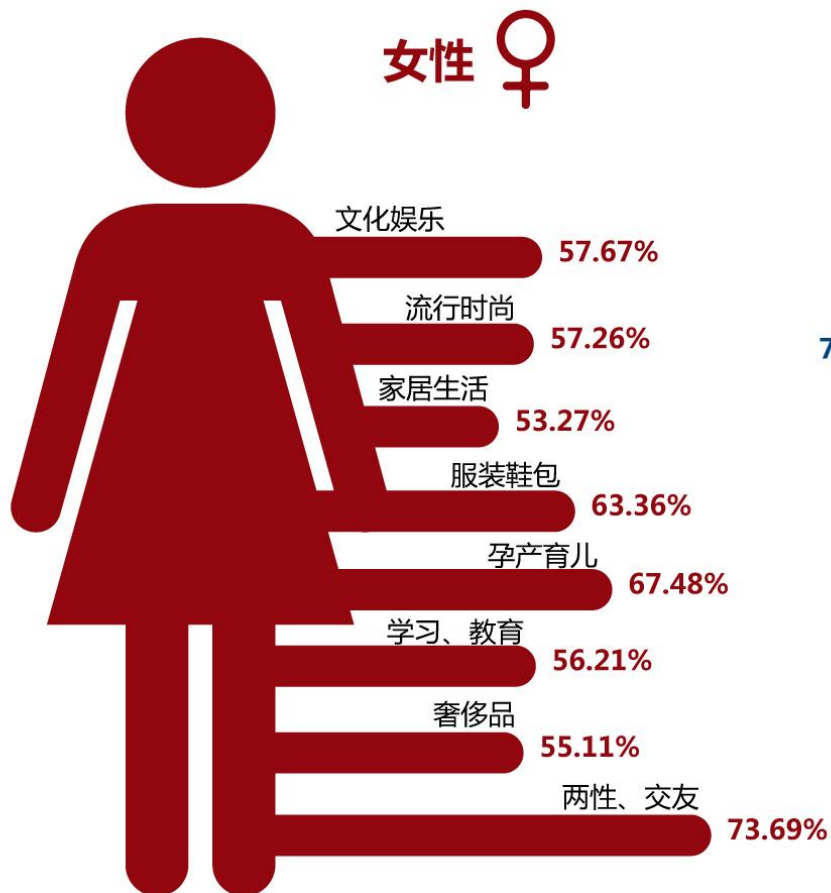**Audience buying (not just RTB)**

Look-alike Audience finding

		人口属性/性别	
	购买倾向/母婴用品/婴幼儿用品		
	购买倾向/母婴用品/孕妈用品		人口属性/性别/男性
购买倾向/体育装备			人口属性/性别/女性
	购买倾向/体育装备/类型	人口属性/年龄	
	购买倾向/体育装备/品牌		人口属性/年龄/7--12
	购买倾向/体育装备/价格		人口属性/年龄/13--18
购买倾向/户外用品			人口属性/年龄/19-22
	购买倾向/户外用品/类型		人口属性/年龄/23-35
	购买倾向/户外用品/品牌		人口属性/年龄/36-50
	购买倾向/户外用品/价格		人口属性/年龄/50岁以上
购买倾向/健康保健品		人口属性/月收入	
	购买倾向/健康保健品/品种		人口属性/月收入/1000元以下
	购买倾向/健康保健品/功效		人口属性/月收入/1000-2000元
	购买倾向/健康保健品/品牌		人口属性/月收入/2001-4000元
	购买倾向/健康保健品/价格		人口属性/月收入/4001-6000元
购买倾向/奢侈品			人口属性/月收入/6001-8000元
	购买倾向/奢侈品/名表		人口属性/月收入/8001-10000元
	购买倾向/奢侈品/珠宝首饰		人口属性/月收入/10001-20000元
	购买倾向/奢侈品/顶级化妆品		人口属性/月收入/20000以上
	购买倾向/奢侈品/服装服饰		
	购买倾向/奢侈品/名品箱包		
	购买倾向/奢侈品/名酒		

DAAT

品友人口属性分析

女性 ♀

男性 ♂
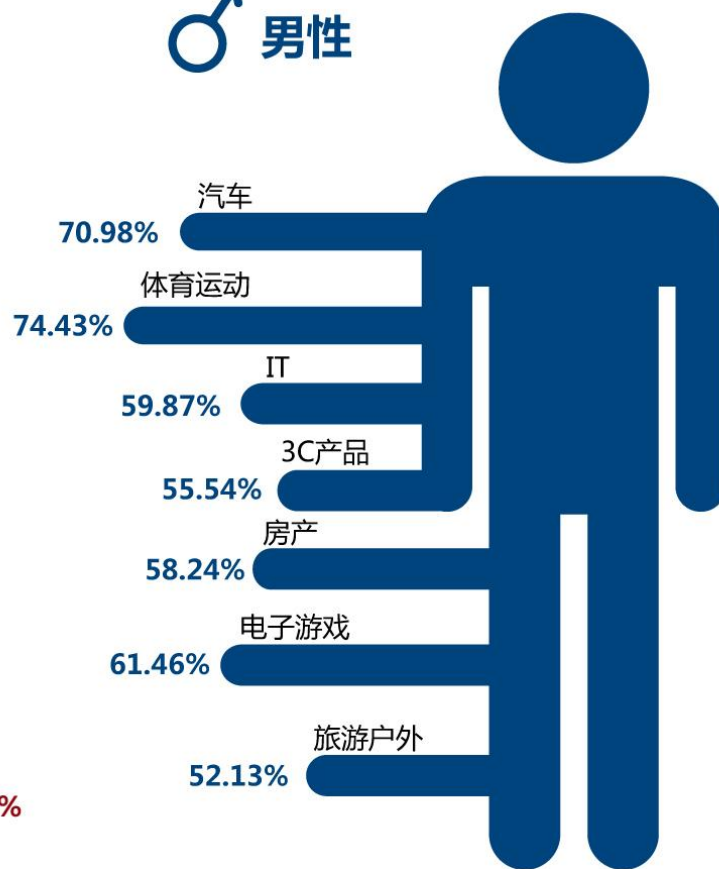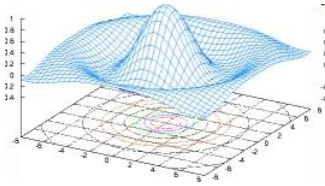
文化娱乐 57.67%

流行时尚 57.26%

家居生活 53.27%

服装鞋包 63.36%

孕产育儿 67.48%

学习、教育 56.21%

奢侈品 55.11%

两性、交友 73.69%

汽车 70.98%

体育运动 74.43%

IT 59.87%

3C产品 55.54%

房产 58.24%

电子游戏 61.46%

旅游户外 52.13%

精准定位受众　智能优化传播

黑龙江　Columbia Sportswear Company.

HUMMER　内蒙古　北京　150m²以上

天津　香港

澳大利亚　重庆　新加坡　浙江　上海　30万以上

广东

Emporio Armani　海南

LibSVM

Scale
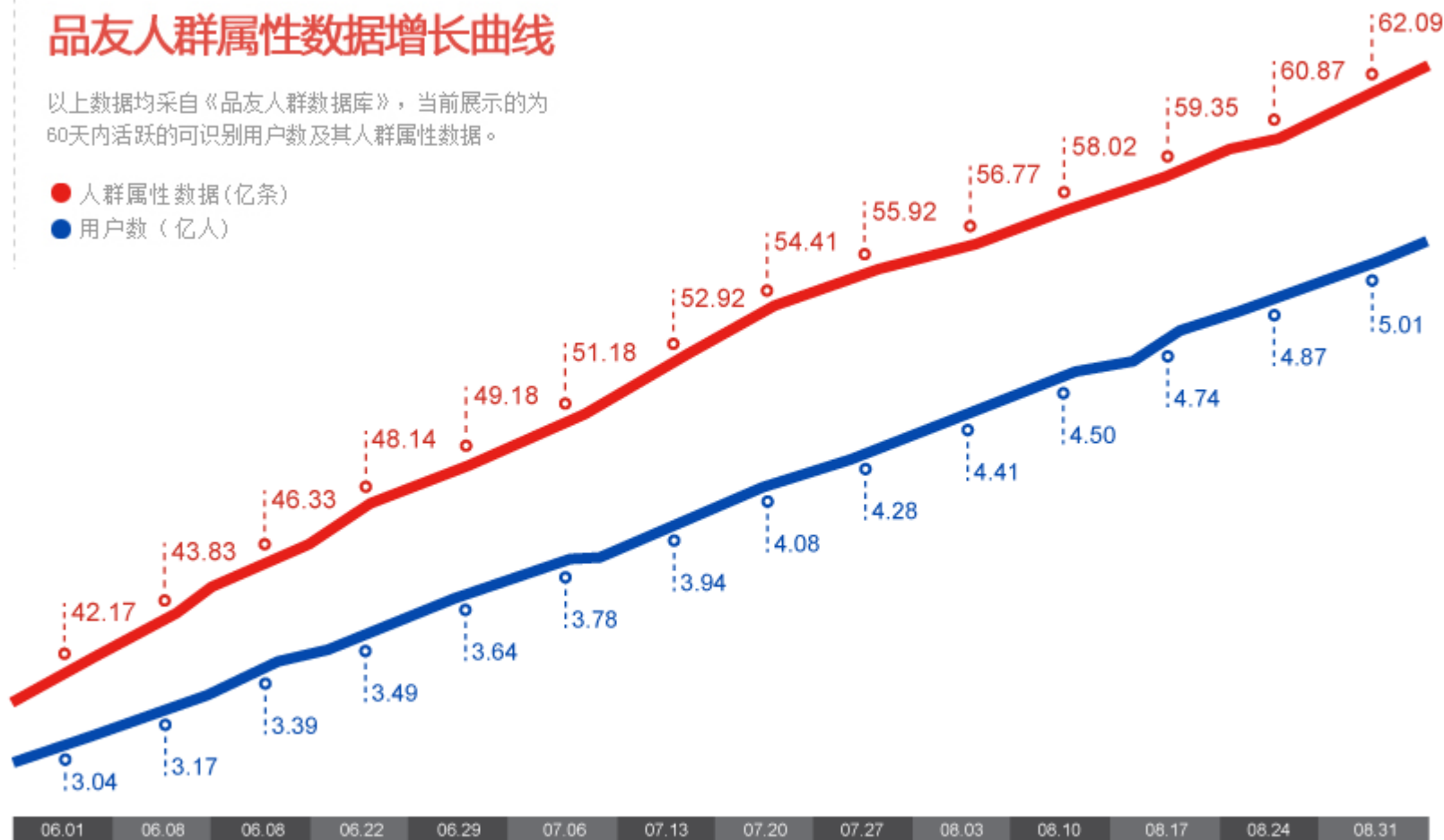
Precision

Feature selection

Classification algorithm

Chinese word segmentation

Training Data size

Freshness

Real-time data

Parameter time delay

Hourly manual classification

Futures

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Open Platform

http://contest.ipinyou.com/

Best Algorithm

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Maximize *#clicks + N * #conversions*
Subject to *the fixed budget*

3 Season Awards +

1,000,000 Grand Prize

iPinYou Contest vs. Netflix Prize

Open Question
Offline & Online Evaluation
Production setting
Meaningful metrics
Dynamic data set
Short time span

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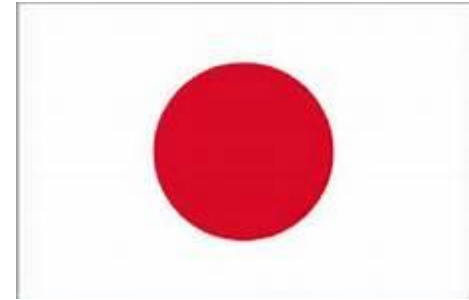
7.5G

bid: 13.6M
imp: 9.2M
clk: 7.5K
conv: 72

Dropbox:

https://www.dropbox.com/sh/xolf5thu8jsbmfu/kBrAsSxtAN

百度网盘:

http://pan.baidu.com/share/link?shareid=374646&uk=3037373637

Leaderboard (April 20)

1	CAS_MLRush	1699
2	cas-rush	1652
3	NaiveTeam	1157
4	GanBaDie	1107
5	energy	917

Leaderboard (May 3)

1	GanBaDie	1834
2	energy	1830
3	the9thbit	1827
4	CAS_MLRush	1809
5	aurora	1768
6	Run Fast	1738
7	o_o	1695
8	cas-rush	1686
9	YSU_ML	1540
10	XiongChunshui	1536
11	Explore	1534
12	Hunter	1507
13	bidgun	1354
14	AdThinker	1329
15	LIUZ	1299
16	PlugPlay	1259
17	LFan	1236
18	unicorn	1177
19	NaiveTeam	1157
20	fox	1145
21	changyangfan	1143
22	DSP4Fun	1135
23	justforfun	1134
24	easilydo	1060

Leaderboard (May 16)

1	CAS_MLRush	1960.76
2	newline	1956.92
3	the9thbit	1934.51
4	fox	1924.27
5	骑士	1922.99
6	Explore	1922.99
7	LIUZ	1922.35
8	LFan	1913.39
9	GanBaDie	1912.75
10	Run Fast	1910.19
11	energy	1901.87
12	aurora	1897.38
13	AdThinker	1892.26
14	DSP4Fun	1885.22
15	Hunter	1883.3
16	starsnet	1837.85
17	YSU_ML	1822.49
18	changyangfan	1800.08

April 20   May 3   May 16

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2000+ submissions

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ml_rush, the9thbit, newline

05.16 ~ 05.22 Warmup
05.23 ~ 05.25 Bidding

Season 2 vs. Season 1

Support Python, R, Java
Competition platform
2x Data
More user profile data
Top 5 go to LIVE stage
More bonus
Team membership

动

Leaderboard (July 5)

1	uwnroute	2073
2	梦想照进现实	2043
3	o_o	2043
4	scooler	1705
5	ThierryHenry	1677
6	ml_rushrush	1662
7	arsenal	1629
8	eleveN	1493
9	DaJiangYou	1419
10	Apai	892
11	DS团	887
12	BigHead	883
13	NaivePythonTeam	878
14	winterfell	868
15	NaiveJavaTeam	866
16	dr 赖过来打酱油	843

Leaderboard (July 12)

1	梦想照进现实	2205
2	Again	2201
3	uwnroute	2194
4	V_V	2073
5	o_o	2043
6	scooler	1705
7	ml_rushrush	1662
8	arsenal	1629
9	DaJiangYou	1419
10	ThierryHenry	1250
11	eleveN	1171
12	DS团	1029
13	herehere_cmx	934
14	dr 赖过来打酱油	914
15	BigHead	883
16	TESTING2013	881
17	NaivePythonTeam	878
18	Apai	871
19	winterfell	868
20	NaiveJavaTeam	866
21	SuperYinfu	824
22	LIUZ	630
23	WSYZZ	581
24	haveatry	515

Leaderboard (July 13)

1	Again	2223
2	梦想照进现实	2205
3	uwnroute	2194
4	V_V	2073
5	o_o	2043
6	扬帆对	1993
7	scooler	1705
8	ml_rushrush	1662
9	arsenal	1629
10	DaJiangYou	1419
11	herehere_cmx	1387
12	DS团	1342
13	ThierryHenry	1250
14	eleveN	1171
15	dr 赖过来打酱油	933
16	BigHead	883
17	TESTING2013	881
18	NaivePythonTeam	878
19	Apai	871
20	winterfell	868
21	NaiveJavaTeam	866
22	SuperYinfu	824
23	LIUZ	630
24	WSYZZ	581

July 5   July 12   July 13

June 1 ~ August 31 Offline
Sept 1 ~ Sept 30   Online

Any question sent to

dsp-competition@ipinyou.com

320076711

全球RTB算法大赛

iPinYou Global RTB Bidding Algorithm Competition

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Play, Learn and Grow... Together!