

# 鑽鑫最幸運龍百家樂

Zuan Xin Lucky Dragon Baccarat™ mobile Chinese gaming expert app

ICGRT 2013

Baccarat Solved?

David Sofer

Chief Game Designer

Zuan Xin Lucky Dragon

Zuan Xin Lucky Dragon Chinese Mobile Phone Entertainment Enterprises

鑽鑫最幸運龍華手機娛樂企業

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Zuan Xin Lucky Dragon Chinese Mobile Phone Entertainment Enterprises

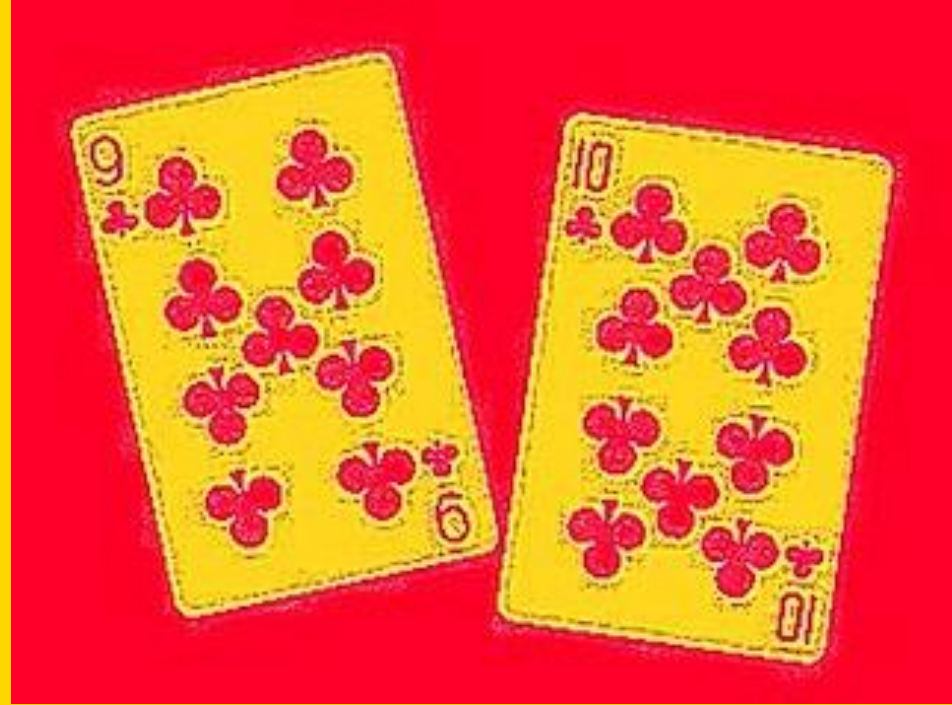
# 鑽鑫最幸運龍華手機娛樂企業

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To Bill Eadington

Thank you!



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## About me

Harvard educated philosophy of science focus

Neuropharmaceutical background

Worked on Alzheimer's and addiction programs

Gambling addiction expertise led Zuan Xin to me

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**Baccarat Solved? Impossible!**

**Ed Thorp said no way**

**Von Neumann didn't finish it**

**Baccarat Solved! How?**

**Someone came along who needed to**

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**CLSA** Macau gaming  
Sector outlook - Overweight

ASIA+PACIFIC MARKETS  
Produced by CLSA

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13 November 2012  
**Global  
Hotels & Leisure**

<b>US/CA</b>			
Galaxy	27 HK		
Market cap	US\$14.80B		
Up/downside	+23%		
<b>Las Vegas Sands</b>	105 US		
Market cap	US\$26.80B		
Up/downside	+38%		
<b>Melco Crown</b>	899 US		
Market cap	US\$8.10B		
Up/downside	+37%		
<b>MGH China</b>	2282 HK		
Market cap	US\$8.70B		
Up/downside	+37%		
<b>MGH Resorts</b>	8608 US		
Market cap	US\$4.80B		
Up/downside	+43%		
<b>Sands China</b>	1928 HK		
Market cap	US\$3.70B		
Up/downside	+18%		
<b>SJM</b>	880 HK		
Market cap	US\$11.20B		
Up/downside	+30%		
<b>Wynn Macau</b>	1128 HK		
Market cap	US\$11.20B		
Up/downside	+20%		
<b>Wynn Resorts</b>	WYNN US		
Market cap	US\$11.00B		
Up/downside	+18%		

**Buffett's checklist**  
Macau scores 8/10 on key criteria

www.clsa.com

The group of companies that comprise CLSA are affiliates of Credit Agricole Securities (USA) Inc.  
For important disclosure information please refer to page 80.



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**G2E Conference 2008**

**Landmark Session**

**Blackjack vs. Baccarat**

**My humble prediction for Baccarat**

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Baccarat's pure, Blackjack isn't.  
Blackjack's peaked,  
Baccarat hasn't.

In fact, it's going to double, triple,  
and even quadruple!

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**Baccarat the biggest game in history**

**2012 estimated global Baccarat handle**

**At least \$2 trillion US probably even more**

**Against Global GDP of about \$70 trillion US**

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**Baccarat the biggest game in history**

**2020 estimated Macau Baccarat win**

**At least \$80 billion US maybe even \$100 billion US**

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**Necessity is the mother of invention**

**Zuan Xin's starting point**

**The mother of the solving of Baccarat was**

**Zuan Xin's mother**

**She ordered her son to solve the game**

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**Zuan Xin's solution spec**

**Solution had to be simple, useable, verifiable**  
**Verifiable in casino, in simulation, in theory**

**USEABLE! USEFUL! USEABLE! USEFUL!**

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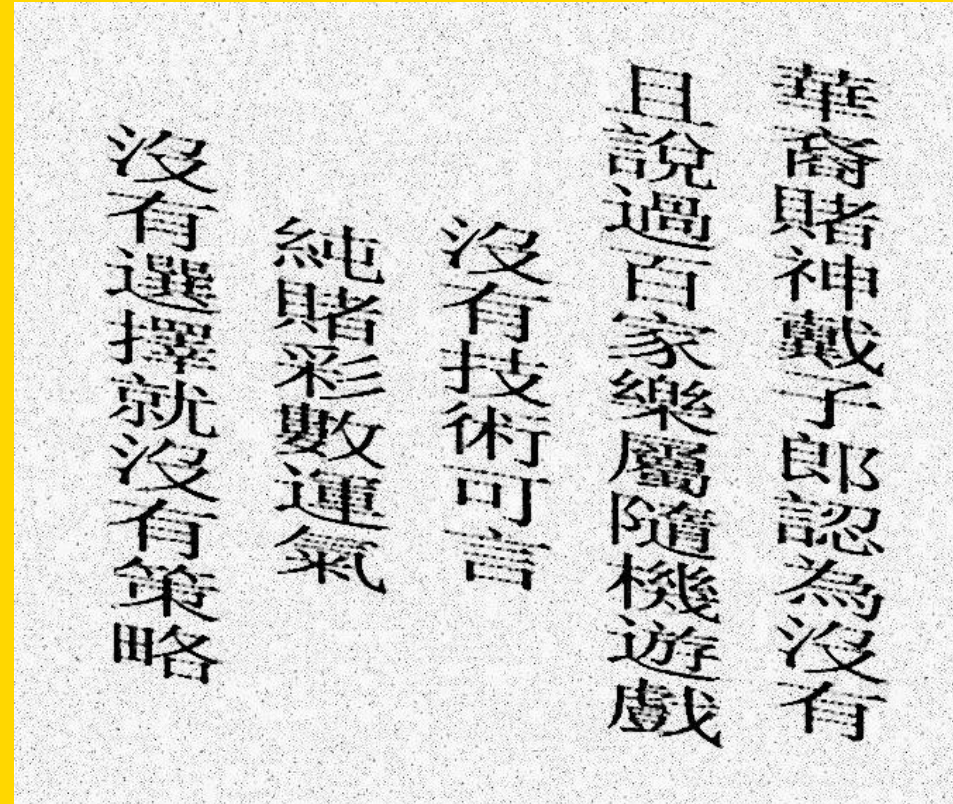


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Chinese  
gambling god  
Dai Zilang said  
the only  
strategy for  
Baccarat is  
pure luck



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**Why the mathematical geniuses  
didn't solve the game of Baccarat**

**Anchored in mathematical purity**

**Anchored in cards and card counting**

**Anchored in the industry wisdom**

**Anchored in Thorp and Walden**

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## A FAVORABLE SIDE BET IN NEVADA BACCARAT\*

EDWARD O. THORP

*New Mexico State University*

*(Presently at University of California at Irvine)*

AND

WILLIAM E. WALDEN

*Los Alamos Scientific Laboratory*

*University of California*

*(Presently at University of Omaha)*

A winning strategy is developed for the nine to one *side bet* on a Banker natural nine. Let  $n$  be the number of cards that remain for play. Let  $t$  be the number of nines that remain for play. If  $p(n, t)$  is the probability of a natural nine when  $n$  and  $t$  are given, then  $p(n, t)$  is greater than 0.1 frequently enough to make the counting of  $n$  and  $t$  the basis for a practical winning strategy. The Kelly criterion (play to maximize the expected value of the log of capital) is used to determine bet sizes for favorable situations. Similar strategies are developed for the side bets on Banker natural eight, Player natural nine, and Player natural eight. The relationships between the four side bets are analyzed. It is shown that the *main* (roughly 1:1) bets on Banker and Player occasionally favor the player. There are theoretical favorable strategies but none exists which is currently practical.

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The endless Baccarat roads

About  $2^{72}$  or  $10^{21}$  different shoes

路 大路 小路

大眼路 甲由路 珠盤路

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## Terminology

Decisions (B or P only)

Runs (BB or PP simplest)

Sequences (BPBPBP simplest)

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♠	♥	♠	♥	♠	♥	♠	♣	♠	♥	♠	♥	♠	♥	♠	♥	♠	♥	♠	♥	♠	♣	♠	♥	♠			
♠	♥		♥	♠		♣		♠		♣	♥	♠	♥		♥		♥	♠	♥	♣	♠	♥					
				♠		♠				♠		♠	♥				♠	♥				♥					
						♠											♠					♥					
																	♠					♥					
																						♥	♥	♥			

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# 鑽鑫最幸運龍百家樂

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1 Unit Bet Math				
Banker Bet 8 Decks				
Event/Pays/Combinations/Probability/Return				
Banker Wins	+0.95	2,292,252,566,437,890	0.458597	+0.435668
Player Wins	-1.00	2,230,518,282,592,250	0.446247	-0.446247
Tie	0.00	475,627,426,473,216	0.095156	0.000000
Total		4,998,398,275,503,360	1.000000	-0.010579
House Edge +1.06%				
Player Bet 8 Decks				
Event/Pays/Combinations/Probability/Return				
Banker Wins	-1.00	2,292,252,566,437,890	0.458597	-0.458597
Player Wins	+1.00	2,230,518,282,592,250	0.446247	+0.446247
Tie	0.00	475,627,426,473,216	0.095156	0.000000
Total		4,998,398,275,503,360	1.000000	-0.012351
House Edge +1.24%				
Tie Bet 8 Decks				
Event/Pays/Combinations/Probability/Return				
Banker Wins	-1.00	2,292,252,566,437,890	0.458597	-0.458597
Player Wins	-1.00	2,230,518,282,592,250	0.446247	-0.446247
Tie	+8.00	475,627,426,473,216	0.095156	+0.761248
Total		4,998,398,275,503,360	1.000000	-0.143596
House Edge +14.36%				

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## Simplification Step

Banker/Player 50/50 simplification

Simplifies the math dramatically

Essential step to useability

Enables exploitation of  $(1/2)^x$  cascade

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**Typical Shoe**

**80 Hands**

**8 Ties**

**72 Decisions**

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**Decisions**

**36 Banker**

**36 Player**

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**Runs**

**36 Total**

**18 Runs of 1**

**18 Runs of More Than 1**

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**Sequences**

**18 Sequences of Runs**

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# 鑽鑫最幸運龍百家樂

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**Meta Sequences**

**18 Meta Sequences**

**Containing All Sequences**

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And out pops

The pattern of the patterns

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80		H	
8		T	
72		D	
36		R1	C
18		R2	S
9		R3	D F(S)
4 1/2		R4	T F(D) 1xS
2 1/4		R5	4 F(T) 1xD 2xS
1 1/8		R6	5 F(4) 1xT 2xD 3xS
9/16	1.78	R7	6 F(5) 1x4 2xT 3xD 4xS
9/32	3.56	R8	7 F(6) 1x5 2x4 3xT 4xD 5xS
9/64	7.11	R9	8 F(7) 1x6 2x5 3x4 4xT 5xD 6xS
9/128	14.22	R10	9 F(8) 1x7 2x6 3x5 4x4 5xT 6xD 7xS
9/256	28.44	R11	10 F(9) 1x8 2x7 3x6 4x5 5x4 6xT 7xD 8xS
9/512	56.89	R12	11 F(10) 1x9 2x8 3x7 4x6 5x5 6x4 7xT 8xD 9xS
9/1024	113.78	R13	12 F(11) 1x10 2x9 3x8 4x7 5x6 6x5 7x4 8xT 9xD 10xS
9/2048	227.56	R14	13 F(12) 1x11 2x10 3x9 4x8 5x7 6x6 7x5 8x4 9xT 10xD 11xS
9/4096	455.11	R15	14 F(13) 1x12 2x11 3x10 4x9 5x8 6x7 7x6 8x5 9x4 10xT 11xD 12xS
9/8192	910.22	R16	15 F(14) 1x13 2x12 3x11 4x10 5x9 6x8 7x7 8x6 9x5 10x4 11xT 12xD 13xS
9/16384	1820.44	R17	16 F(15) 1x14 2x13 3x12 4x11 5x10 6x9 7x8 8x7 9x6 10x5 11x4 12xT 13xD 14xS
9/32768	3640.89	R18	17 F(16) 1x15 2x14 3x13 4x12 5x11 6x10 7x9 8x8 9x7 10x6 11x5 12x4 13xT 14xD 15xS

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And then

The pattern of the pattern of the patterns

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# 鑽鑫最幸運龍百家樂

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## 栩栩四標™

The Four Vivid Ritual Bonfires

The Xuxu Siyou

1 of 1 = A = Ox and >1 of 1 = B = Sheep

1 of >1 = C = Goat and >1 of >1 = D = Bird

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## 栩栩四標™

Every shoe simplifies to

A/B C/D A/B C/D ...

C/D A/B C/D A/B ...

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## 栩栩四標™

Useable playing method pops right out

Wait for three fires to light then focus on fourth  
Overwhelming probability fourth will light too

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## 栩栩四標™

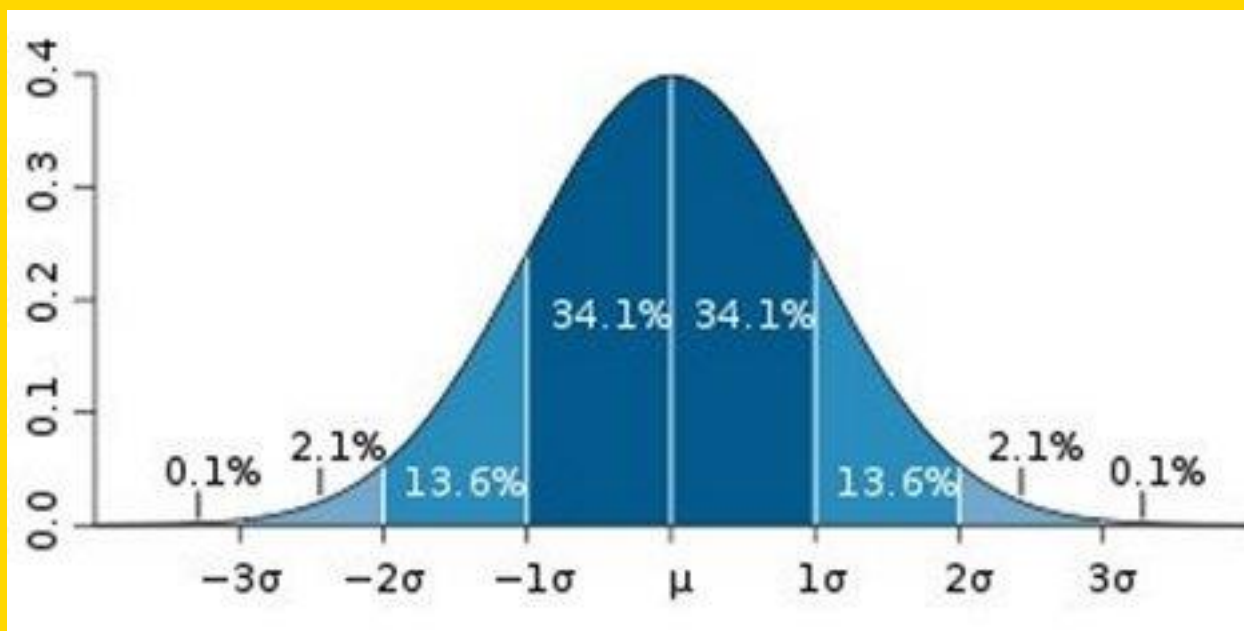
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
			●		●			●		●	●				●	●				●	●					
					●					●					●					●	●					
															●						●	●				
																					●	●	●			

D4 A1 D5 A1 C5 A2 C2 A1 D13 A1 C2 A1  
 D13 A1 D11 B2+1 XXSY LIGHTS 6TH TRY

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## 栩栩四標™

Outcome patterns

On order of  $(1/2)^x$  cascade

First twice second twice third etcetera

Casino success negative second standard deviation

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## 栩栩四標™

Playing the Xuxu Siyou

One betting cycle per shoe

Extraordinary patience required

Improbability enabled betting progression

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## 栩栩四標™

Implications of the Xuxu Siyou

Xuxu Siyou solution of the game of Baccarat

Validates Baccarat as ultimate gaming construct

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## 栩栩四標™

Exclusively contained in our mobile app

Zuan Xin Lucky Dragon Baccarat™

First mobile Chinese gaming expert app

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## 栩栩四標™

Conclude watch Ultra High Speed Simulator  
Xuxu Siyou simulated at >5 hands per second

But you all check for yourselves...

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## 栩栩四標™

**DON'T TAKE IT FROM ME!**

**YOU ALL CHECK FOR YOURSELVES!**

**BEGIN IT TONIGHT AT THE BACCARAT ROOM!**

**PREPARE TO BE AMAZED!**

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## 栩栩四標™

Some of my students did that for real

Watched and watched and watched

Watched in the Baccarat rooms of Asia then

They backed Zuan Xin Lucky Dragon Gaming!

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## 鑽鑫最幸運龍百家樂™

Zuan Xin Lucky Dragon Baccarat™

Mobile Chinese gaming expert app

June launch on Google Play

If Ed Thorp had solved Blackjack today  
he would have released a mobile app!

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## 栩栩四標™

Anyone interested in formalizing

Xuxu Siyou mathematics

For academic publication

Please see me or contact me

**COMMERCIAL SPONSORS WANTED**

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Email me dsofer888 at gmail or yahoo

Voice and text 702 858 7558

Thank you!

Now let's look at the Xuxu Siyou...

And then you all check for yourselves...

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## 鑫超高速栩栩四標™

Zuan Xin's Ultra High Speed Simulator™

Very fun way to understand Xuxu Siyou

Also Patent Pending

Novel treatment for Baccarat gambling addiction

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**PLAYER** 7

**BANKER** 8

SHOE STATISTICS

SHOE STATISTICS	
GAME	18
NATURALS	
Player 9	2
Player 8	1
Banker 9	1
Banker 8	2
TIES	3
PLAYER WINS	6
BANKER WINS	9

seconds lapsed : 3.01

暫停 PAUSE

你贏了! 請啟動新靴牌  
You have won! Please start new shoe

等待的建議 WAIT FOR RECOMMENDATION

奏捷 SUCCESS

賭 BET FOR 羊 SHEEP

牛 羊 羝 鳥  
標鼎 標鼎 標鼎 標鼎

返回到主功能表  
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# 鑽鑫最幸運龍華手機娛樂企業