

Contemporary Intelligent Information Technology (CIIT)

Iterated prisoners dilemma

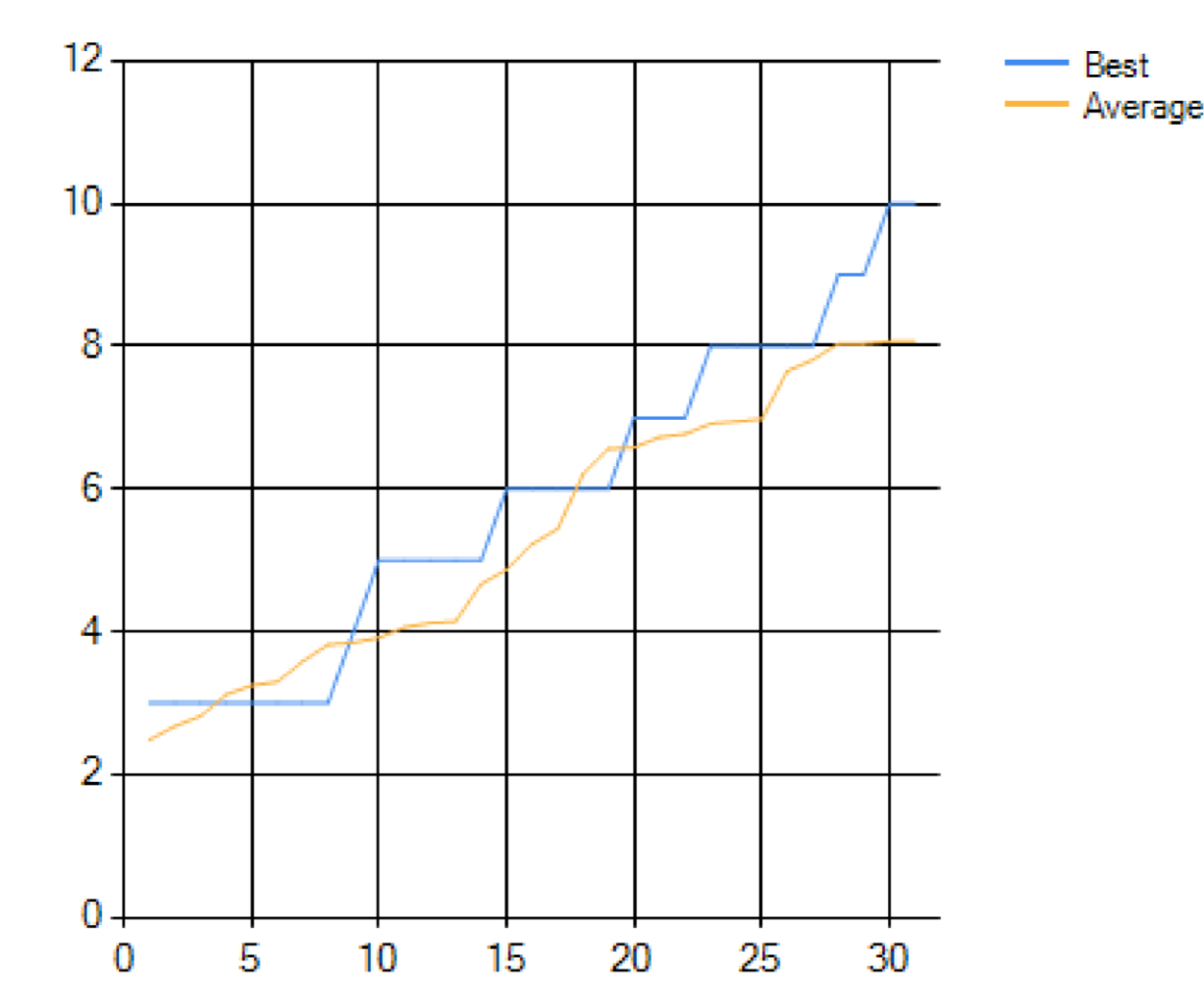
10/22/2018 **Evolution**

process:

Generation	Best fitness	Average fitness
1	3	2,4822
2	3	2,67528
3	3	2,81164
4	3	3,11628
5	3	3,24228
6	3	3,29363
7	3	3,58029
8	3	3,8158
9	4	3,84564
10	5	3,91211
11	5	4,06169
12	5	4,12054
13	5	4,14161
14	5	4,66724
15	6	4,86978
16	6	5,22809
17	6	5,44101
18	6	6,21291
19	6	6,56584
20	7	6,58162
21	7	6,72882
22	7	6,76848
23	8	6,91514
24	8	6,94565
25	8	6,98047
26	8	7,65265
27	8	7,81242
28	9	8,03468
29	9	8,0348

30	10	8,06755
31	10	8,07

Evolving graph:



1) Intermediate generation best versus 8 full random, all zeros and all ones

		Strategy	Result
Best A	101110001011	20	
Random B	101101011011	25	
Best A	101110001011	32	
Random C	001001101010	22	
Best A	101110001011	20	
Random D	011110001111	25	
Best A	101110001011	38	
Random E	000010001010	18	
Best A	101110001011	27	
Random F	001110010011	22	
Best A	101110001011	21	
Random G	110111101001	26	
Best A	101110001011	20	
Random H	101010011111	25	
Best A	101110001011	21	
Random L	010111101011	26	
Best A	101110001011	50	
All zeros	ZERO 000000000000	15	
Best A	101110001011	7	

All ones ONE 111111111111 32

Best A 101110001011 22

TFT TFT 101000001011 22

	A
Games won	4

2) Last generation best versus 8 full random, all zeros and all ones

		Strategy	Result	
Best	A	111110111011	25	
Random	B	101101011011	15	
Best	A	111110111011	37	
Random	C	001001101010	12	
Best	A	111110111011	25	
Random	D	011110001111	15	
Best	A	111110111011	44	Random E
000010001010	9	Best A 111110111011	32	
Random	F	001110010011	12	
Best	A	111110111011	25	
Random	G	110111101001	15	
Best	A	111110111011	25	
Random	H	101010011111	15	
Best	A	111110111011	25	
Random	L	010111101011	15	
Best	A	111110111011	56	
All zeros	ZERO	000000000000	6	
Best	A	111110111011	10	
All ones	ONE	111111111111	20	

Best A 111110111011 16

TFT TFT 111110111011 16

	A
Games won	9

Fully presented best chromosome after genetic algorithm stabilization.

1111101110111011101110111111111111101101110101111101111011111011110111101