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Artificial Intelligence-13(II)

Contemporary Intelligent Information Technology (CIIT)

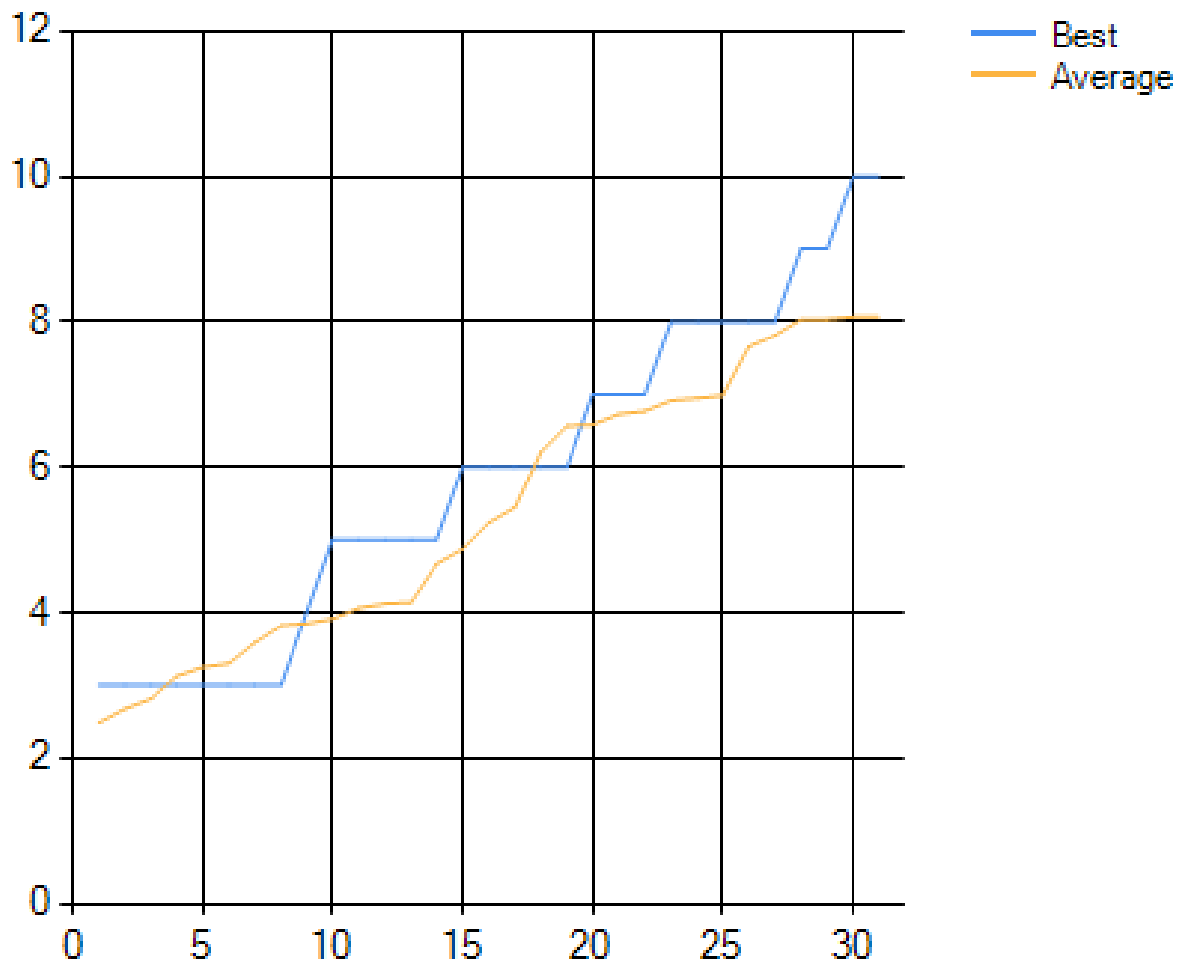
Iterated prisoners dilemma

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.

111110111011101110111011111111111111101101110101111101111101111011101