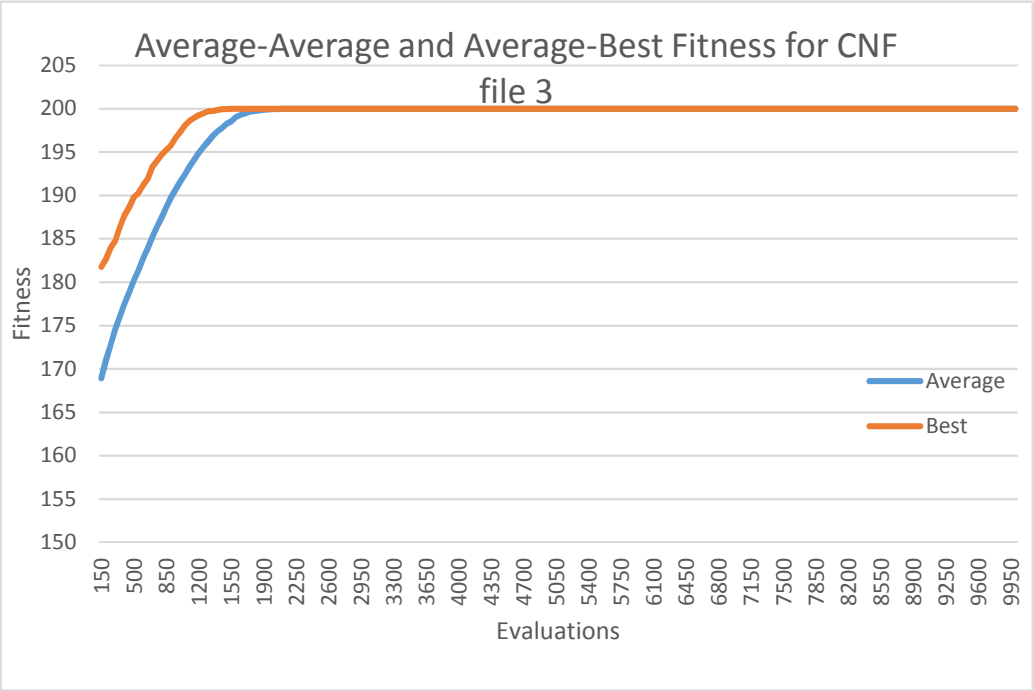
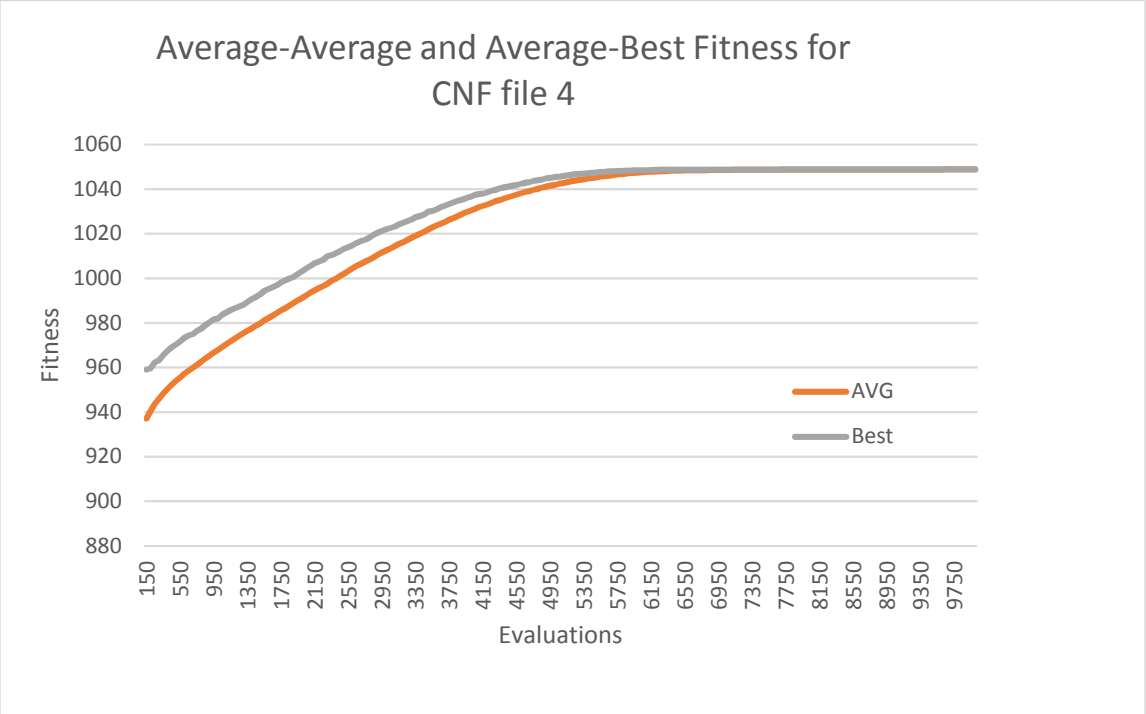

Average-Average and Average-Best Fitness for CNF file 3
Fitness
205
200
195
190
185
180
175
170
165
160
155
150
150 500 850 1200 1550 1900 2250 2600 2950 3300 3650 4000 4350 4700 5050 5400 5750 6100 6450 6800 7150 7500 7850 8200 8550 8900 9250 9600 9950
Evaluations
Average
Best


Average-Average and Average-Best Fitness for CNF file 4
Fitness
1060
1040
1020
1000
980
960
940
920
900
880
150 550 950 1350 1750 2150 2550 2950 3350 3750 4150 4550 4950 5350 5750 6150 6550 6950 7350 7750 8150 8550 8950 9350 9750
Evaluations
AVG
Best

Both the random search algorithm and the evolutionary algorithm were tested on the 3rd CNF File. Their best score for each run is below.

Run	RS	EVO1
1	186	200
2	187	200
3	186	200
4	187	200
5	191	200
6	191	200
7	190	200
8	187	200
9	189	200
10	189	200
11	192	200
12	188	200
13	187	200
14	186	200
15	191	200
16	188	200
17	188	200
18	189	200
19	191	200
20	187	200
21	189	200
22	187	200
23	187	200
24	187	200
25	188	200
26	190	200
27	188	200
28	189	200
29	189	200
30	187	200

F-Test Two-Sample for Variances

	Variable 1	*Variable 2*
Mean	188.3667	200
Variance	2.86092	0
Observations	30	30
df	29	29
F	65535	
P(F<=f) one-tail	#DIV/0!	
F Critical one-tail	1.860811	

t-Test: Two-Sample Assuming Equal Variances

	Variable 1	*Variable 2*
Mean	188.3667	200
Variance	2.86092	0
Observations	30	30
Pooled Variance	1.43046	
Hypothesized Mean Difference	0	
df	58	
t Stat	-37.6714	
P(T<=t) one-tail	8.95E-43	
t Critical one-tail	1.671553	
P(T<=t) two-tail	1.79E-42	
t Critical two-tail	2.001717	

Reject null hypothesis. The algorithm with the highest mean does indicate a statistically better algorithm on this problem instance.