

CS 776: Evolutionary Computing -Assignment 3 Fall 2018

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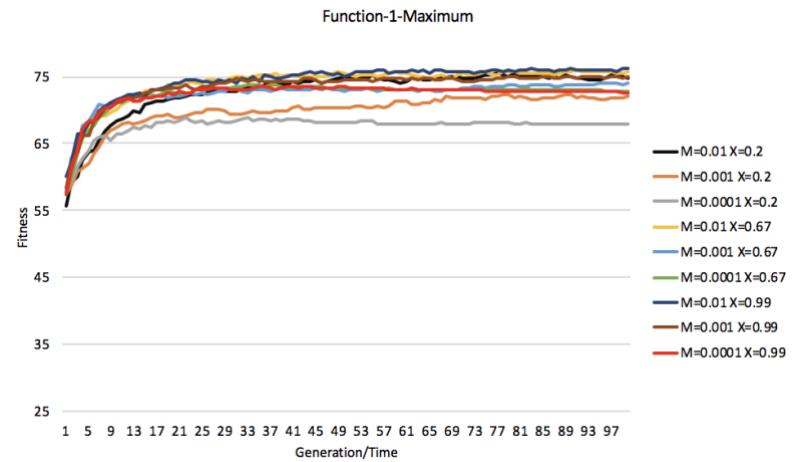
Email address: bcharyyev@nevada.unr.edu

Here we have graph for Function1 for all its Mutation(M) and Crossover(X) combinations.

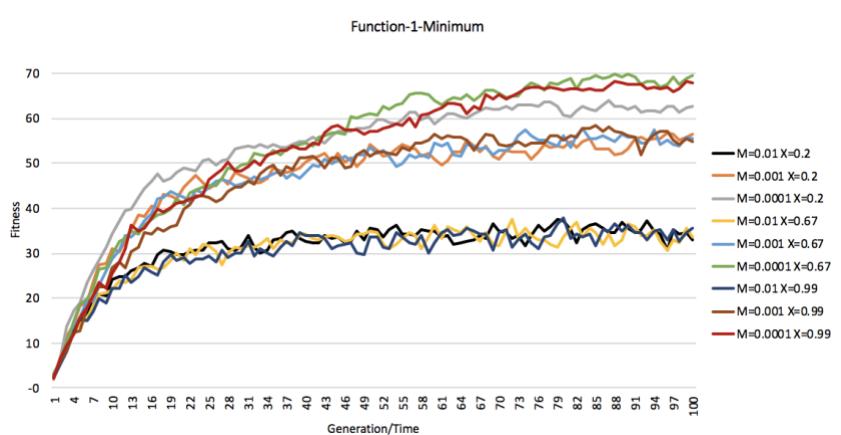
M can have values of 0.01, 0.001 and 0.0001

X can have values of 0.2, 0.67 and 0.99.

First graph is for average Maximum fitness over 30 runs.



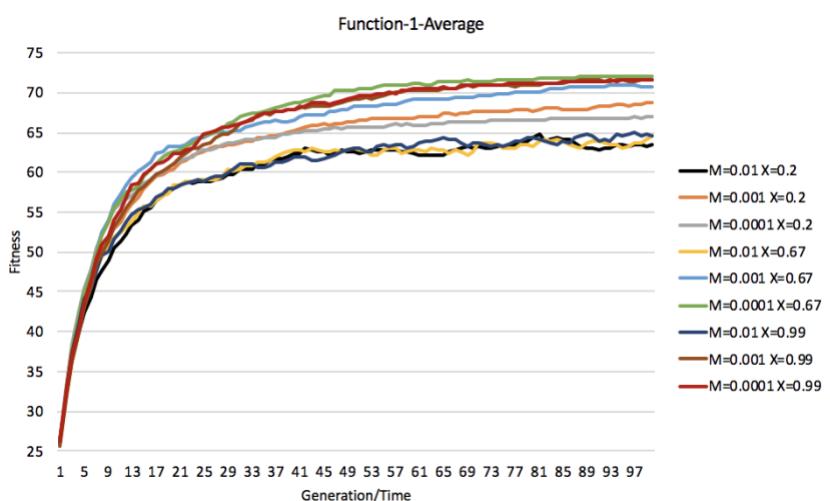
Second graph is average Minimum fitness over 30 runs.

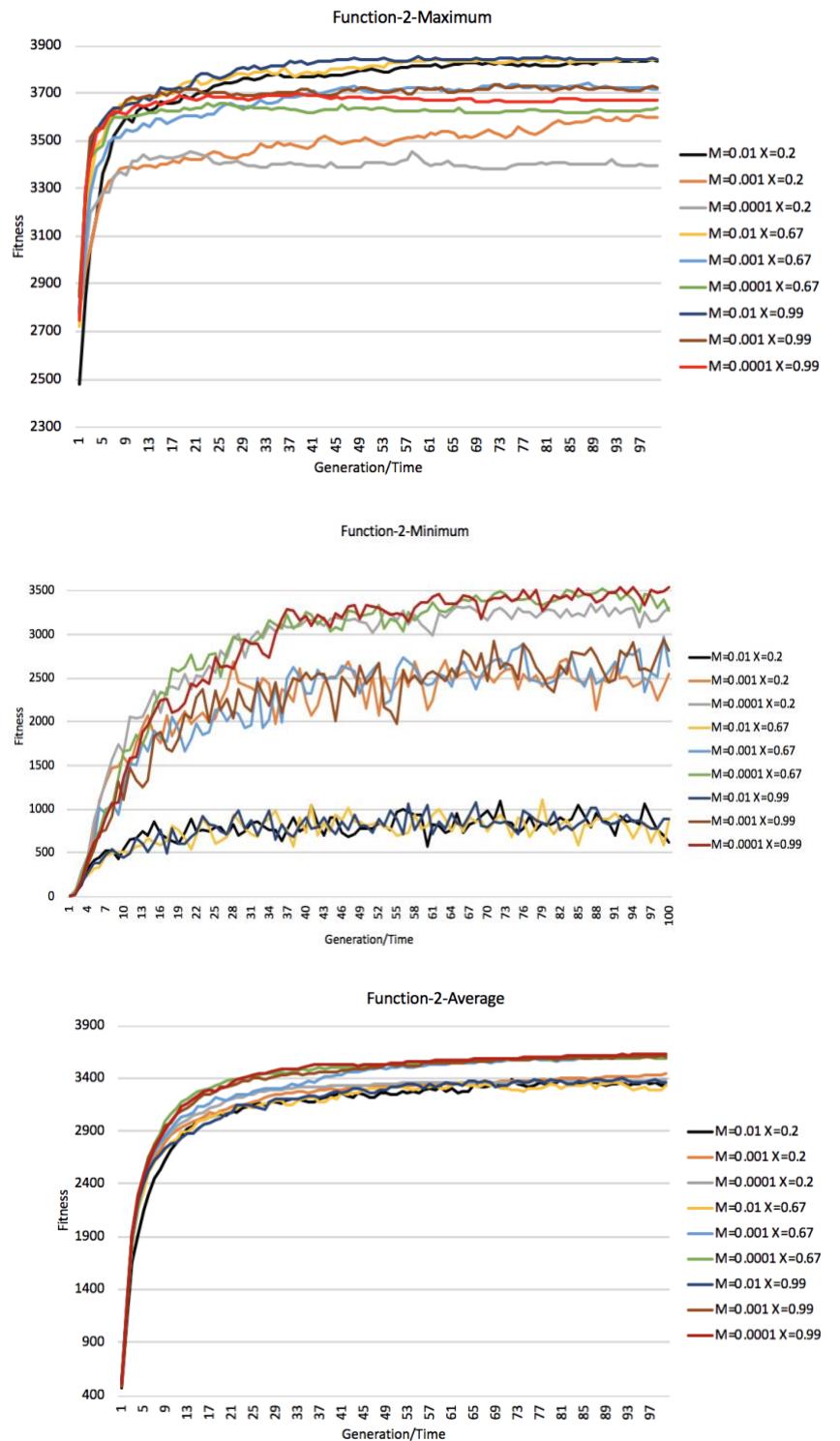


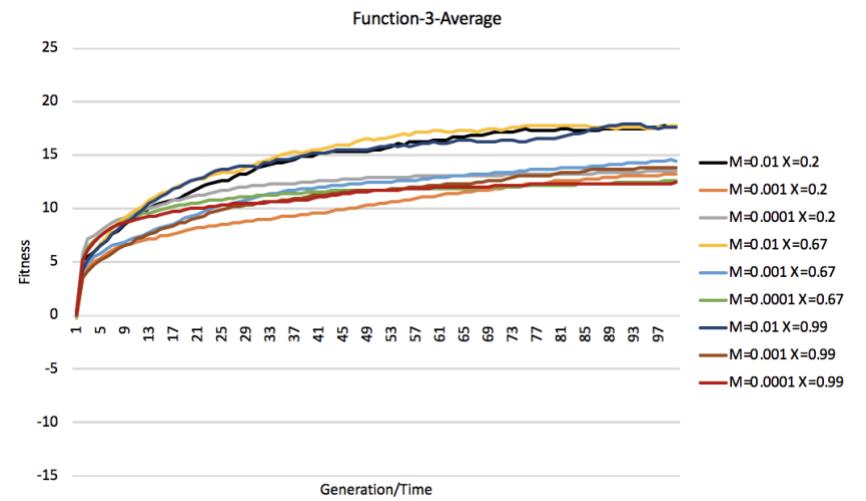
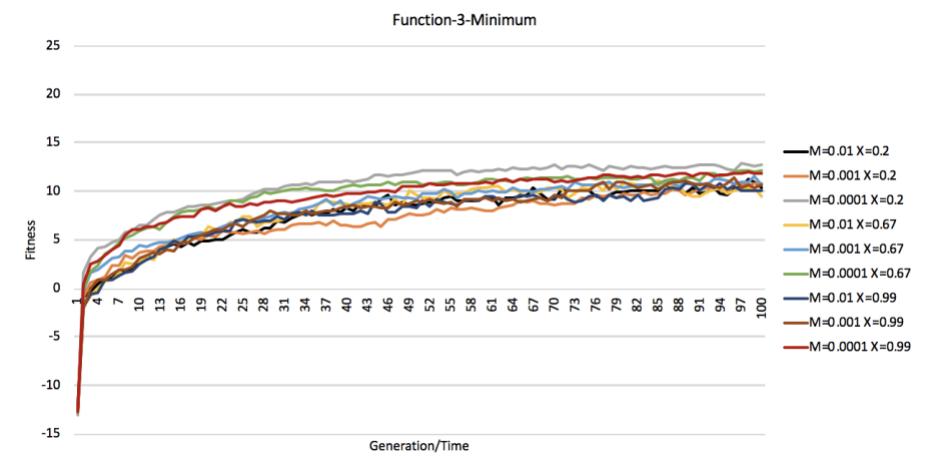
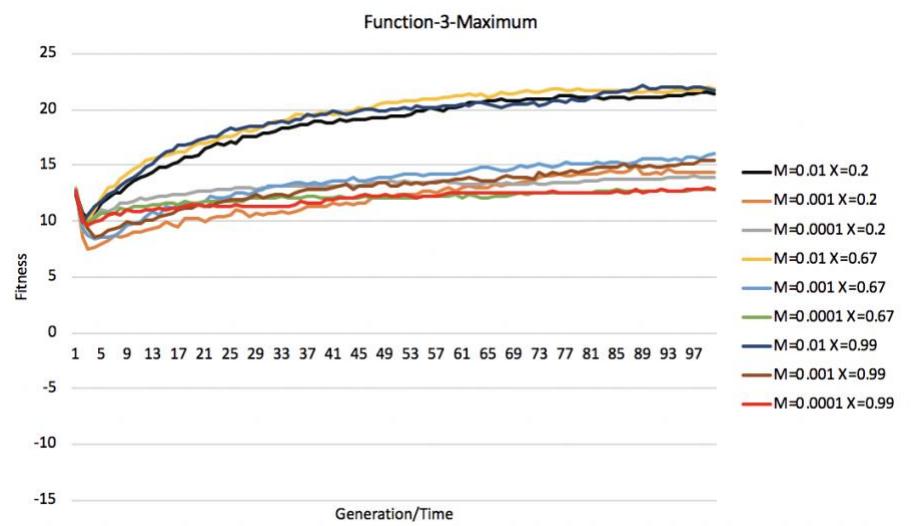
Third graph is average of Average fitness over 30 runs.

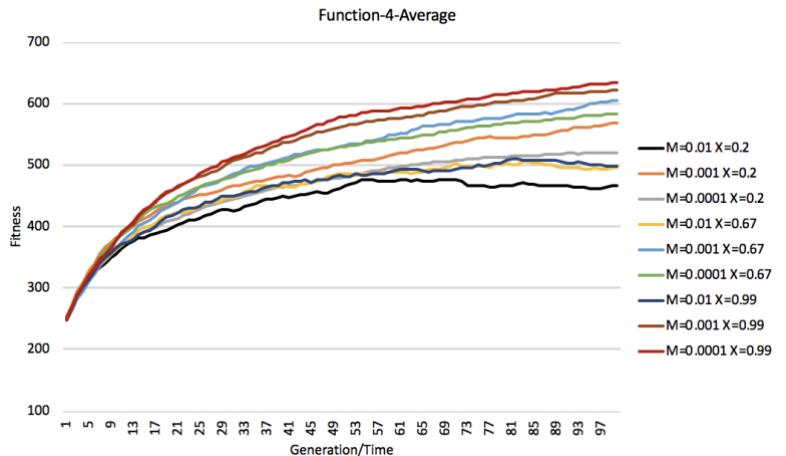
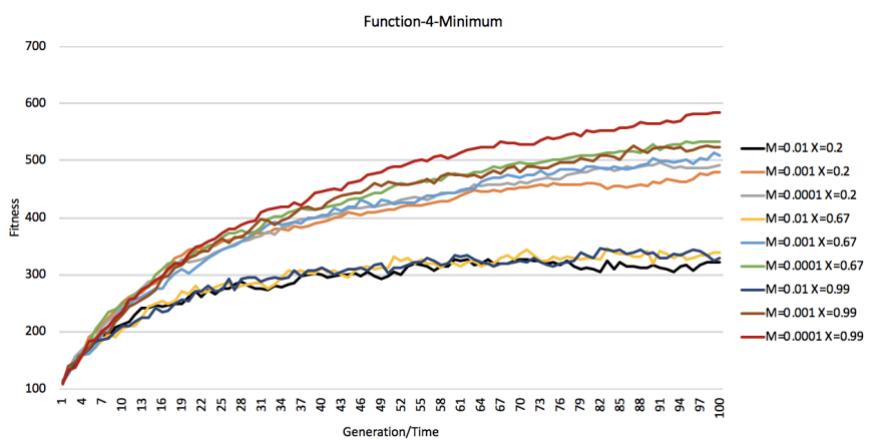
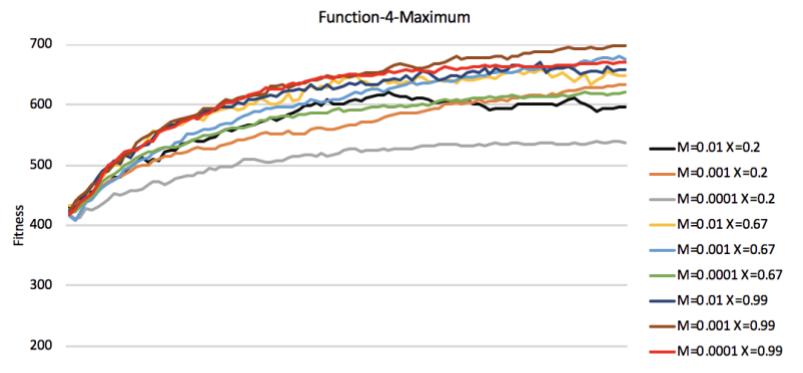
On following pages we have same graphs for Function 2, 3 and 4.

Individual results are provided in the end.





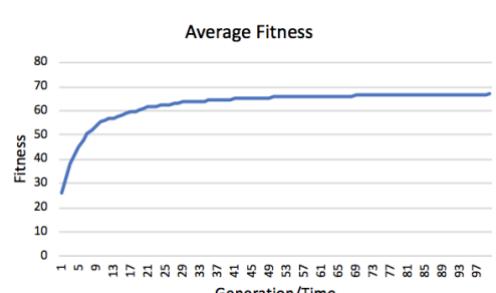
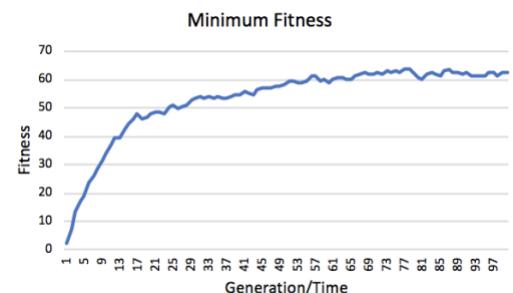
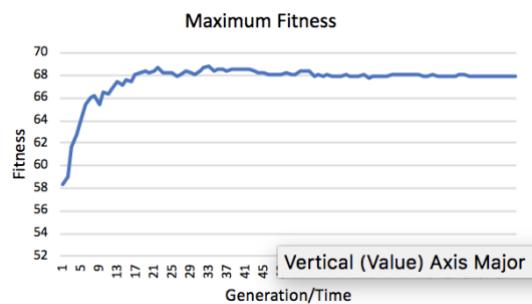
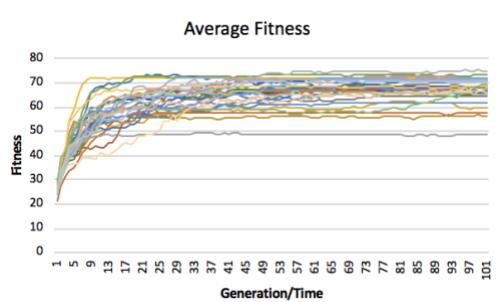
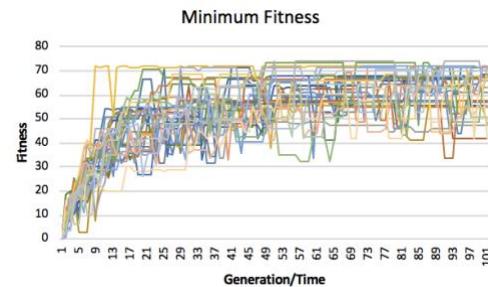
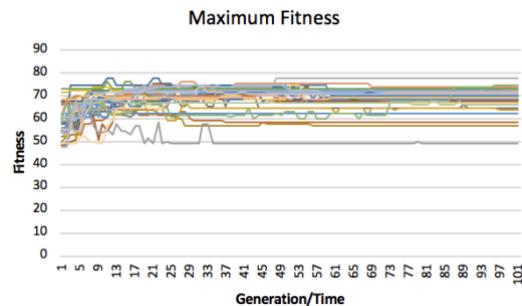




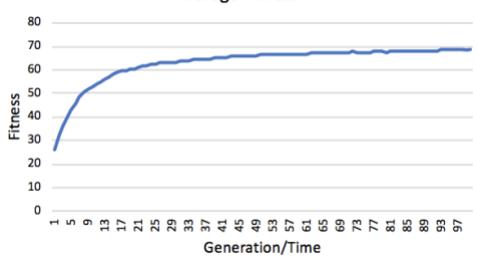
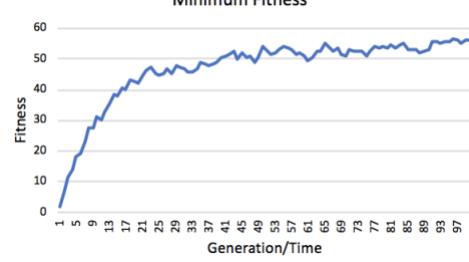
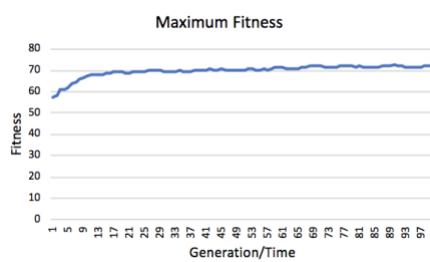
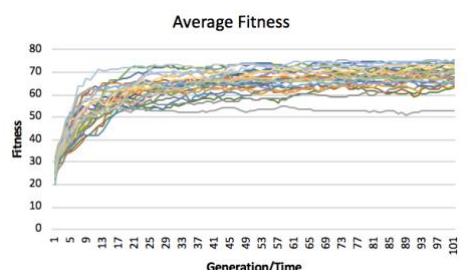
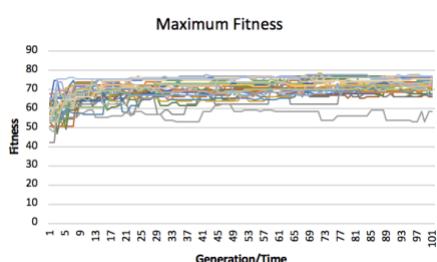
In next page we show results for each combination of M and X separately and first we show results for 30 runs then average of this 30 runs.

Function-1

Mutation=0.0001 Crossover=0.2

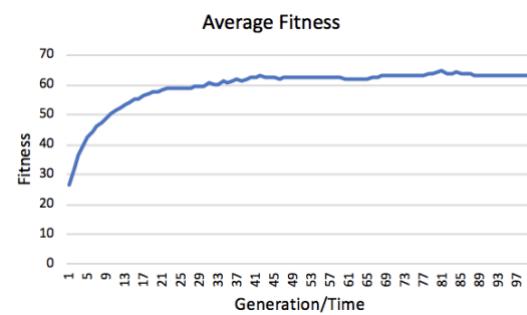
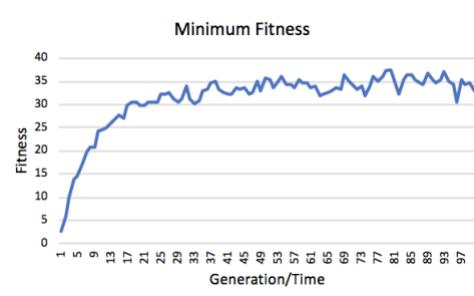
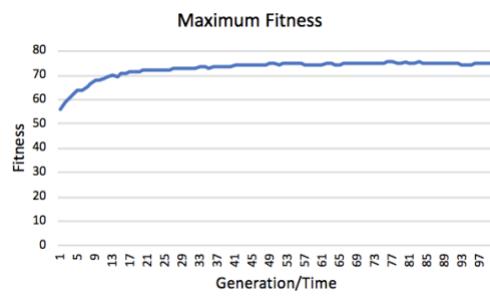
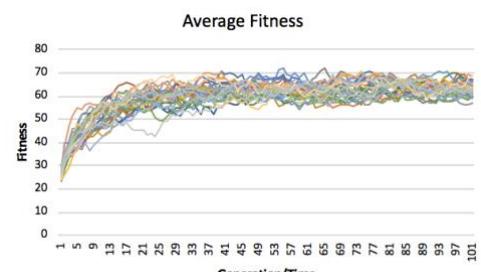
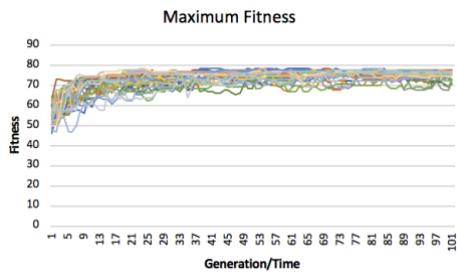


Mutation=0.001 Crossover=0.2



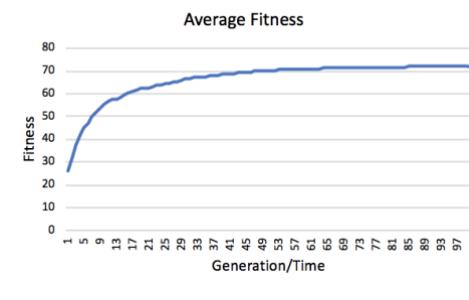
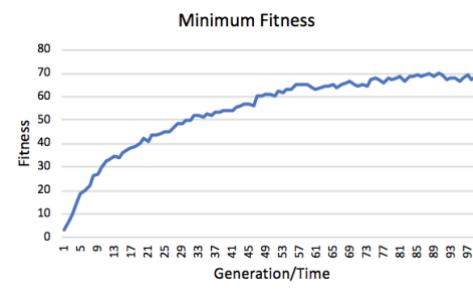
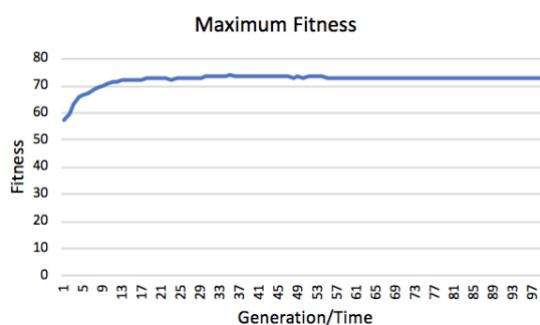
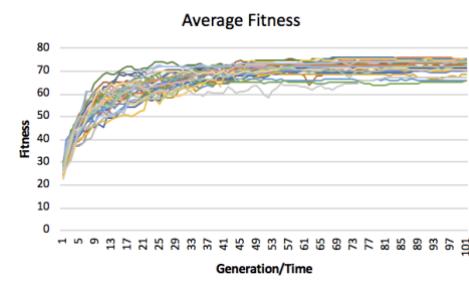
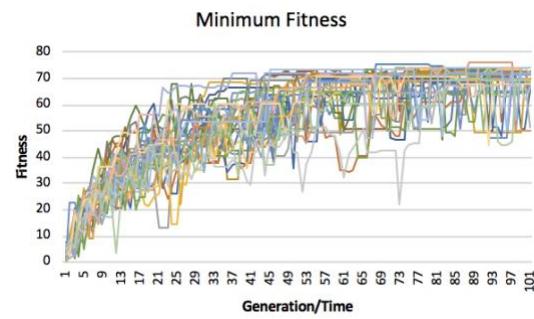
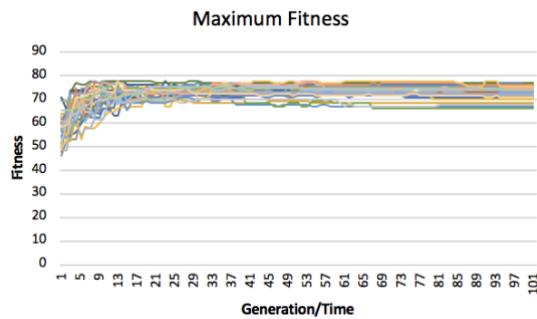
Mutation=0.01

Crossover=0.2

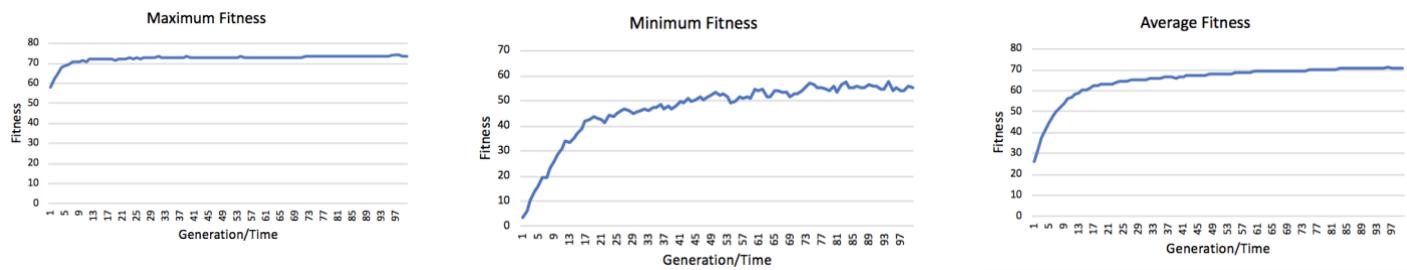
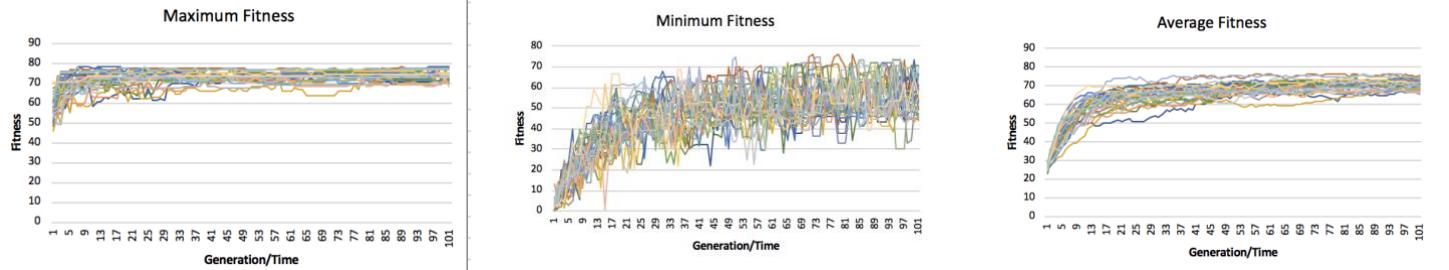


Mutation=0.0001

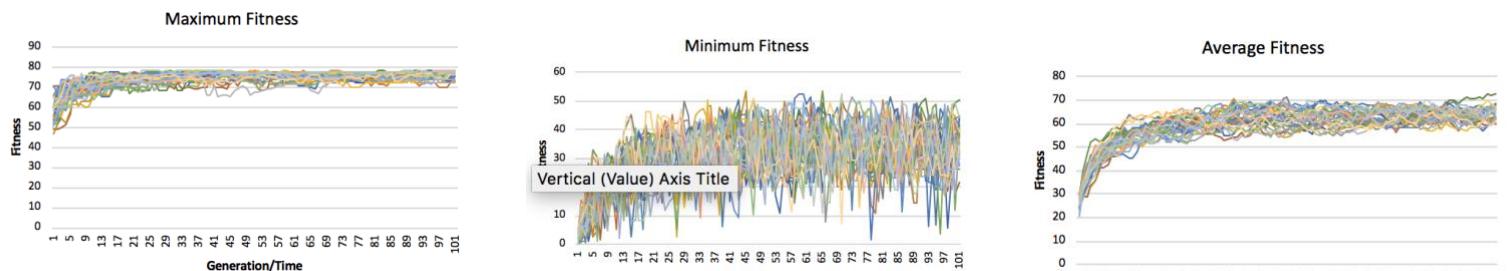
Crossover=0.67



Mutation=0.001 Crossover=0.67

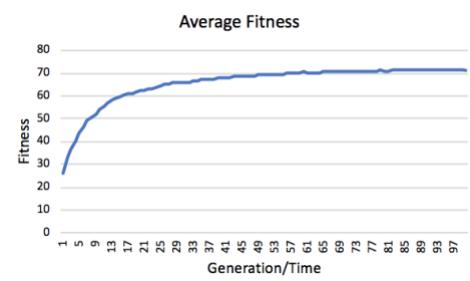
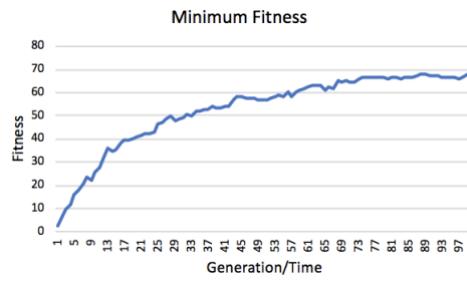
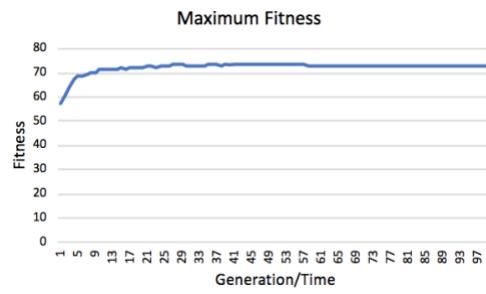
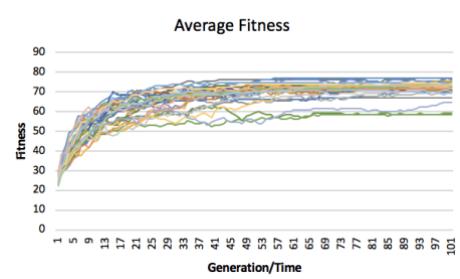
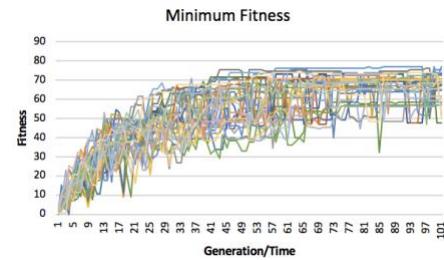
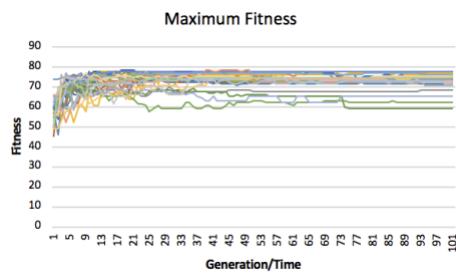


Mutation=0.01 Crossover=0.67



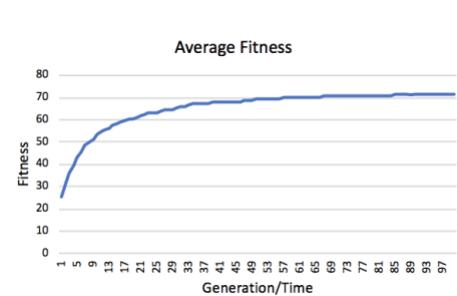
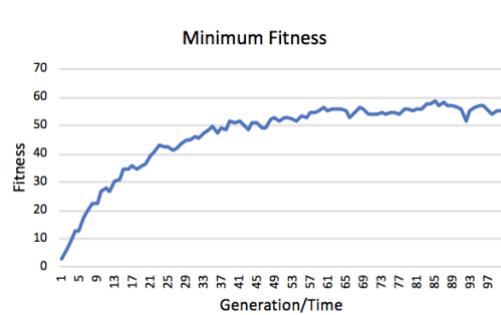
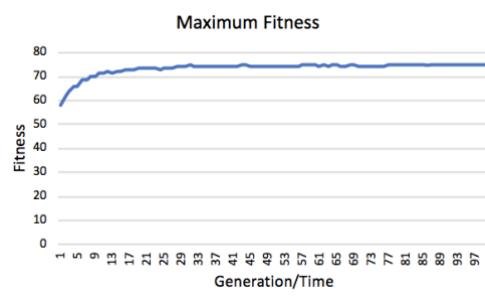
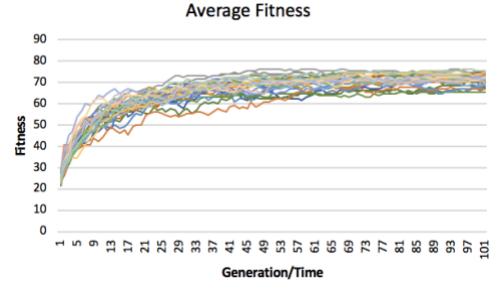
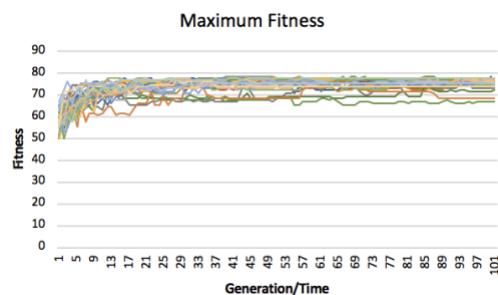
Mutation=0.0001

Crossover=0.99



Mutation=0.001

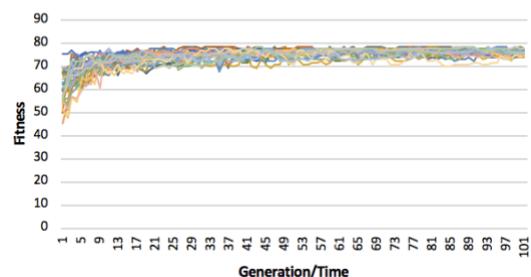
Crossover=0.99



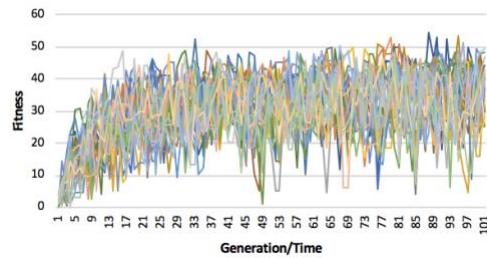
Mutation=0.01

Crossover=0.99

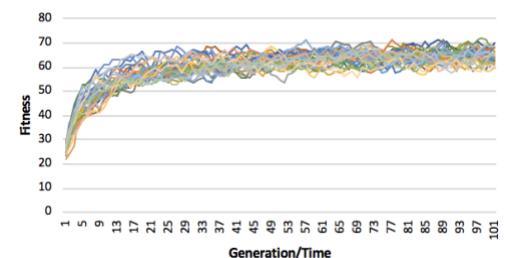
Maximum Fitness



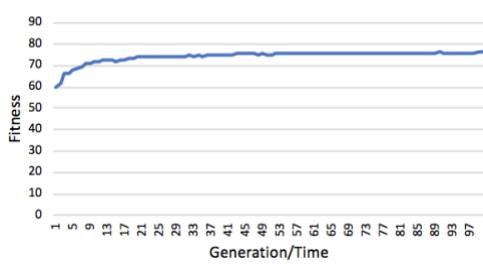
Minimum Fitness



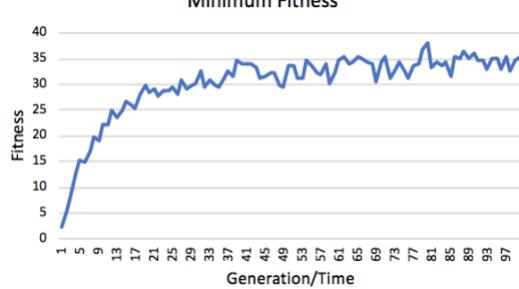
Average Fitness



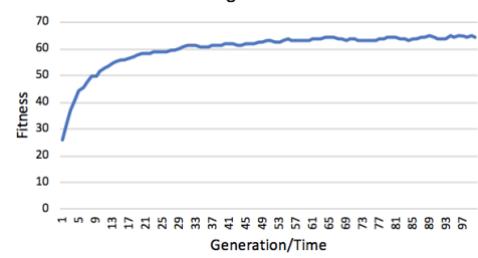
Maximum Fitness



Minimum Fitness

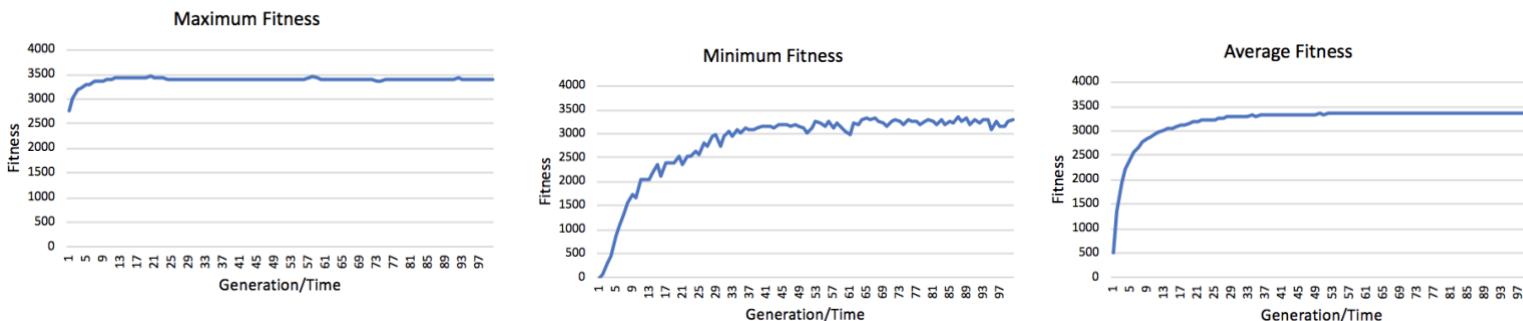
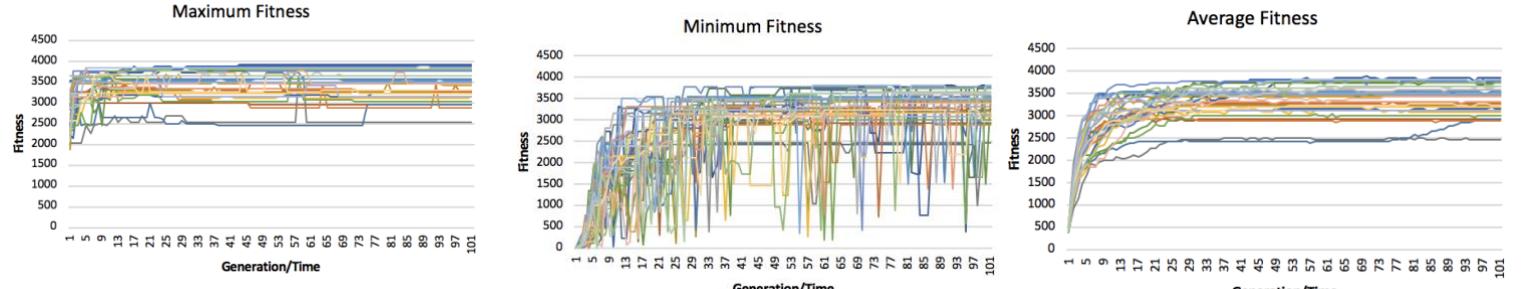


Average Fitness

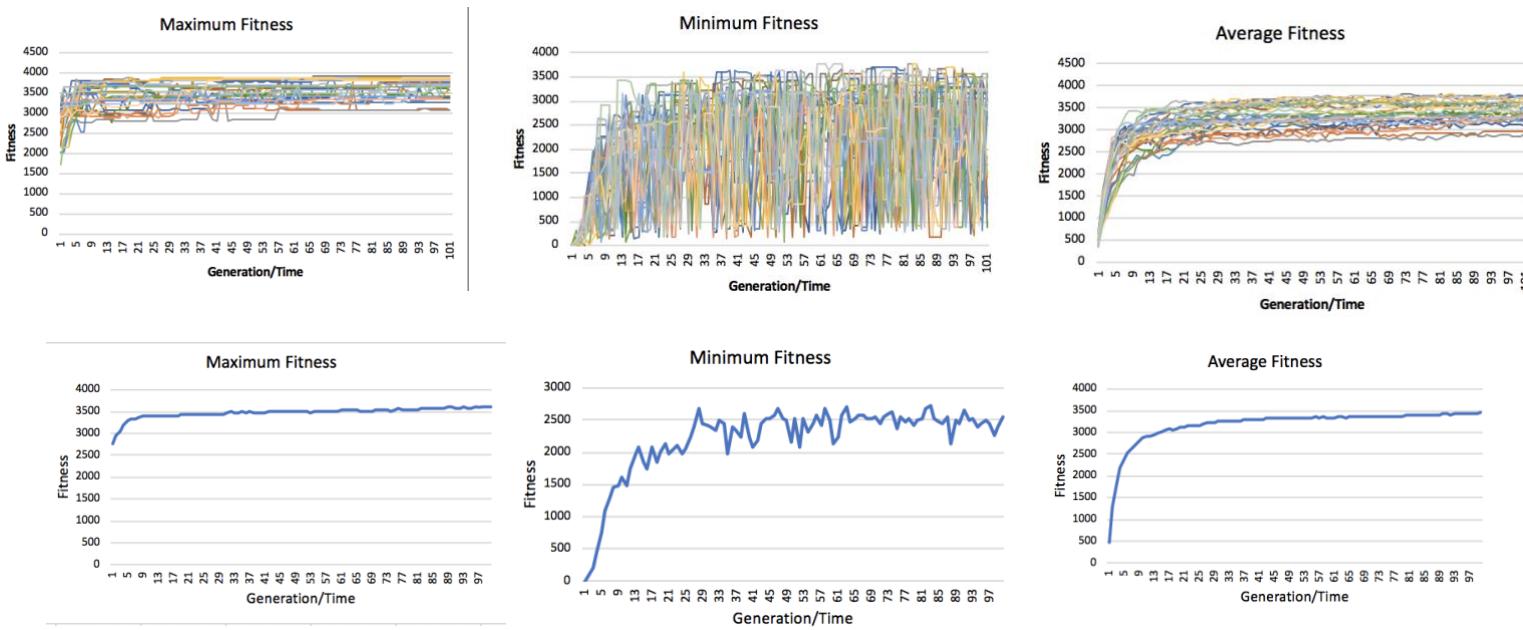


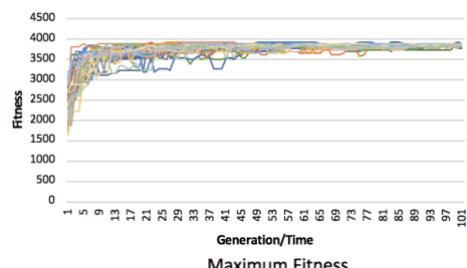
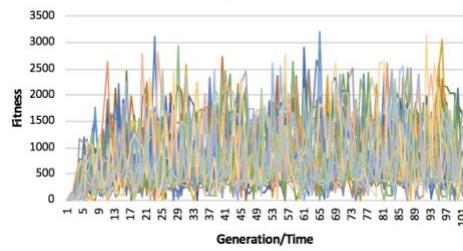
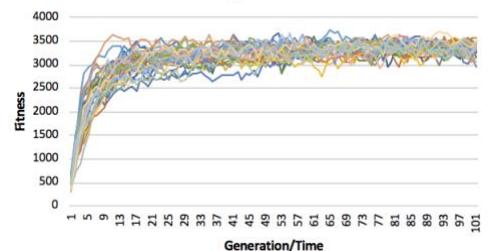
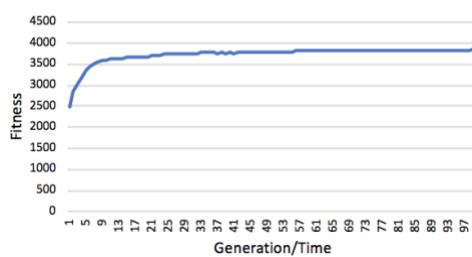
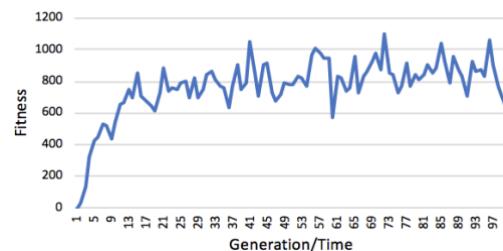
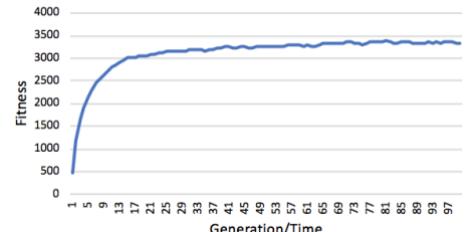
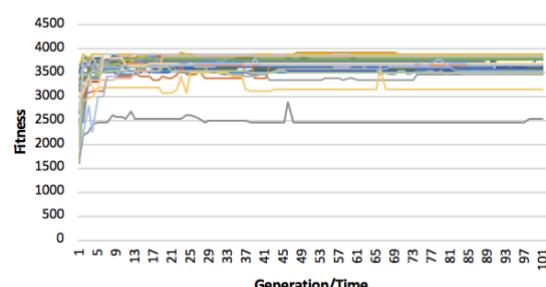
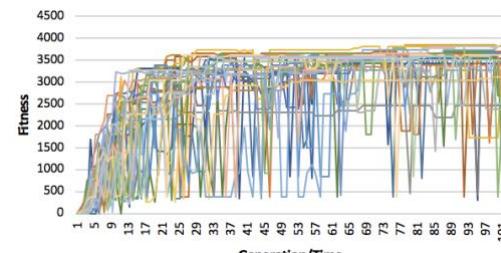
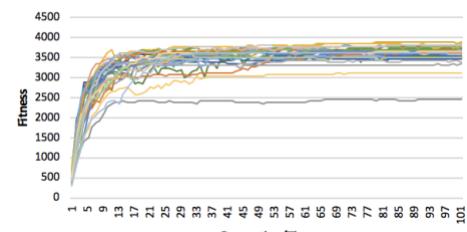
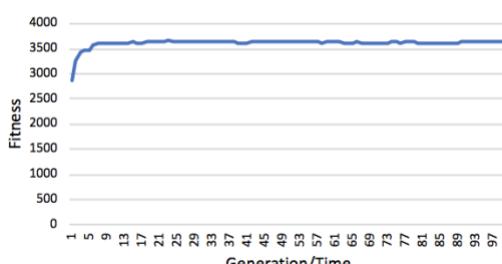
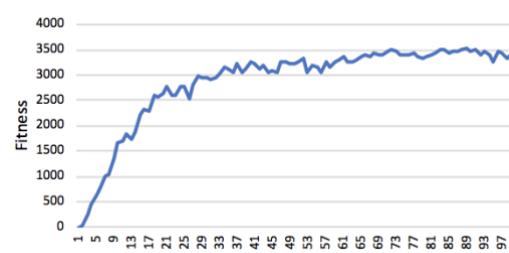
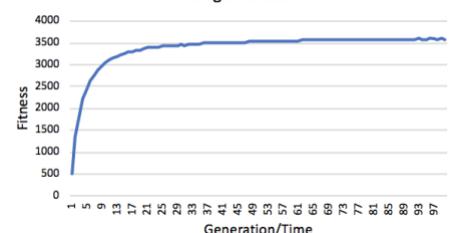
Function-2

Mutation=0.0001 Crossover=0.2



Mutation=0.001 Crossover=0.2

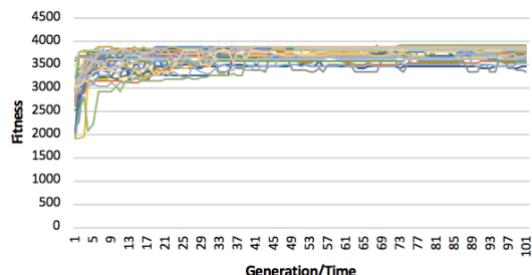


Mutation=0.01**Crossover=0.2****Maximum Fitness****Minimum Fitness****Average Fitness****Maximum Fitness****Minimum Fitness****Average Fitness****Mutation=0.0001****Crossover=0.67****Maximum Fitness****Minimum Fitness****Average Fitness****Maximum Fitness****Minimum Fitness****Average Fitness**

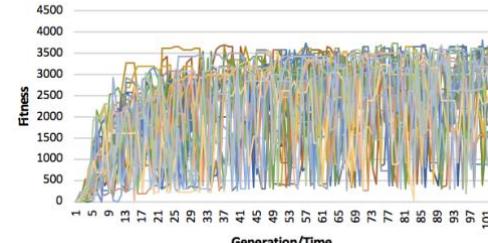
Mutation=0.001

Crossover=0.67

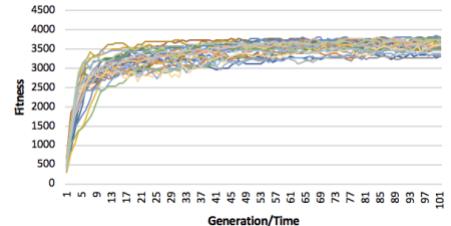
Maximum Fitness



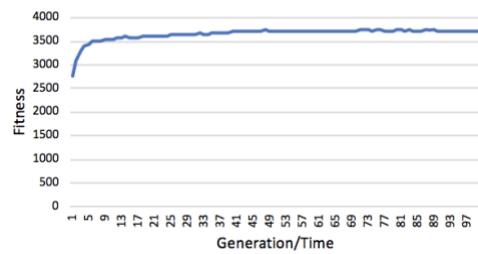
Minimum Fitness



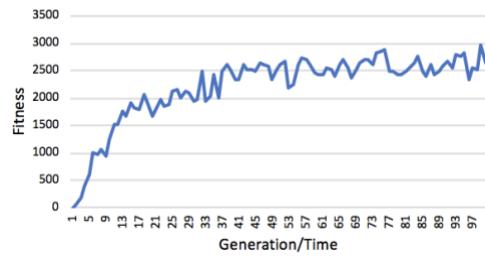
Average Fitness



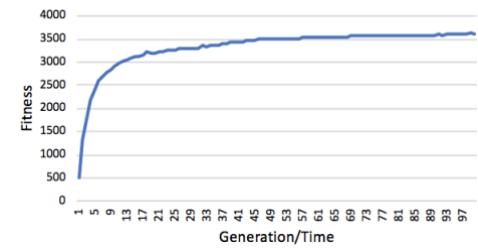
Maximum Fitness



Minimum Fitness



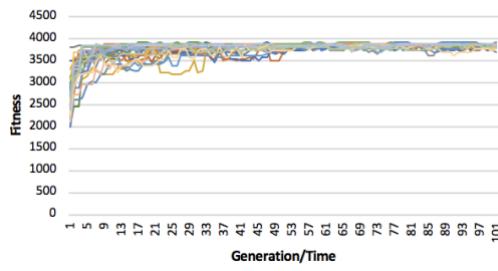
Average Fitness



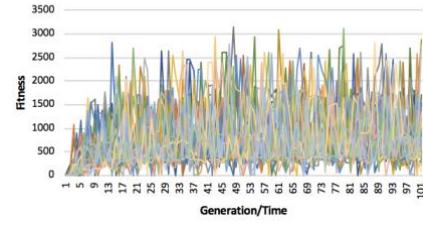
Mutation=0.01

Crossover=0.67

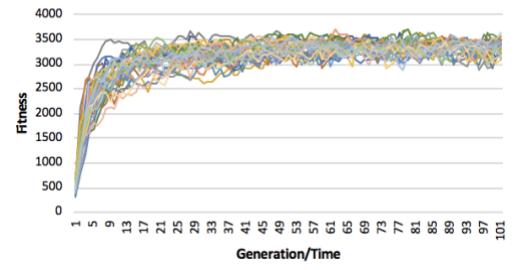
Maximum Fitness



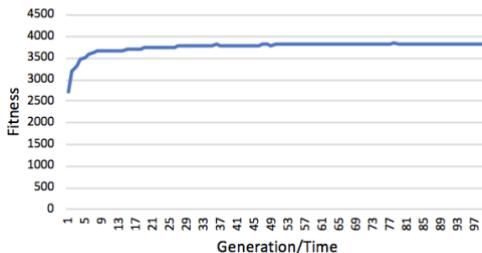
Minimum Fitness



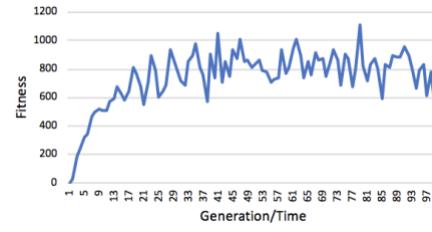
Average Fitness



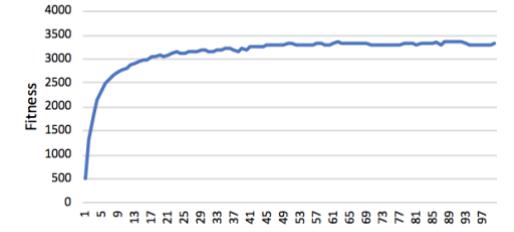
Maximum Fitness



Minimum Fitness

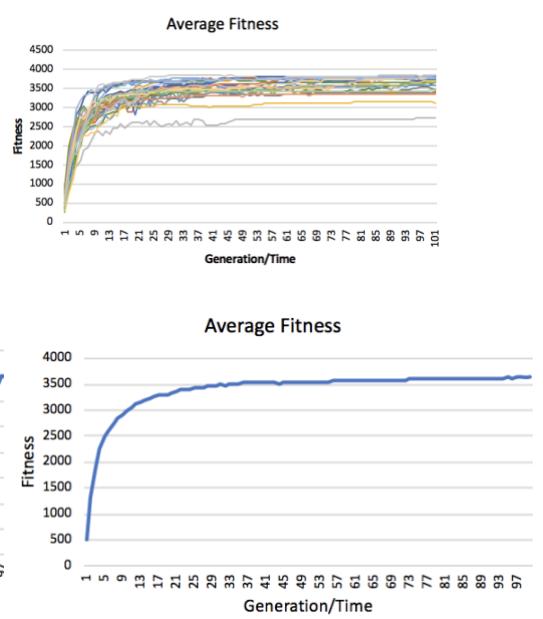
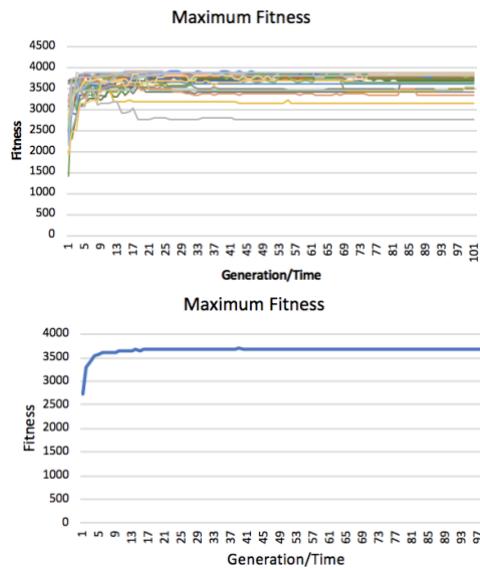


Average Fitness



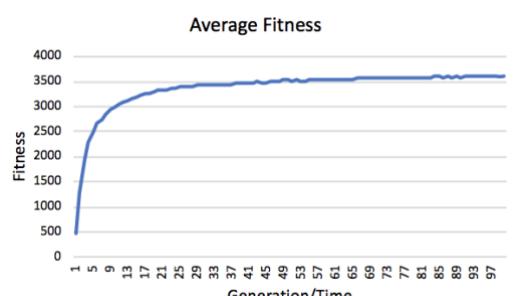
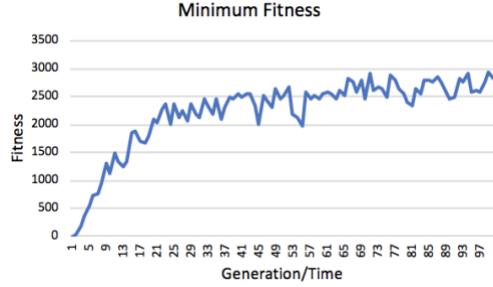
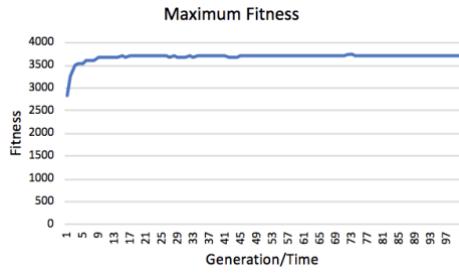
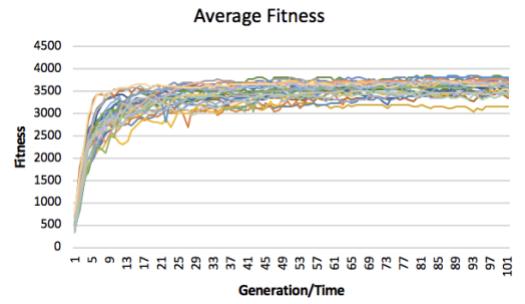
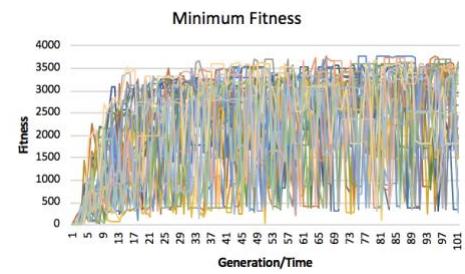
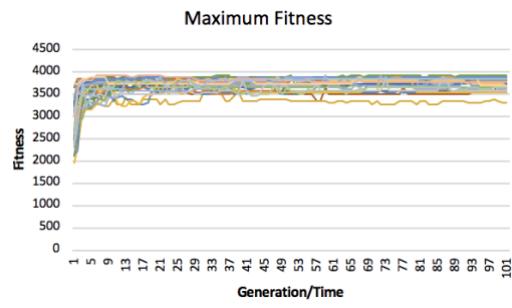
Mutation=0.0001

Crossover=0.99



Mutation=0.001

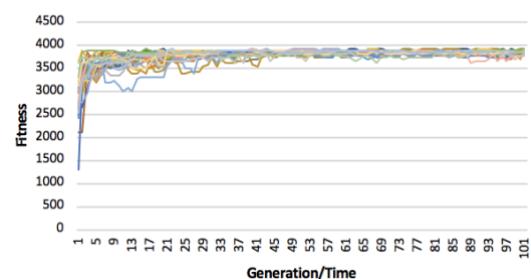
Crossover=0.99



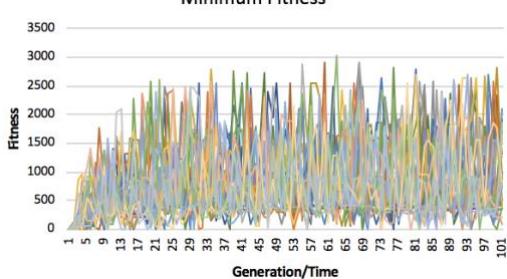
Mutation=0.01

Crossover=0.99

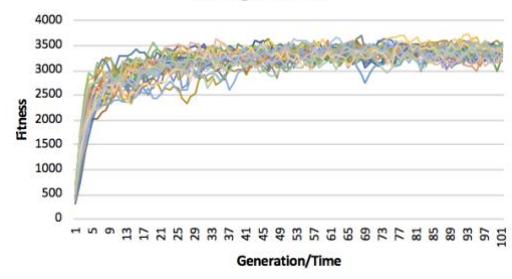
Maximum Fitness



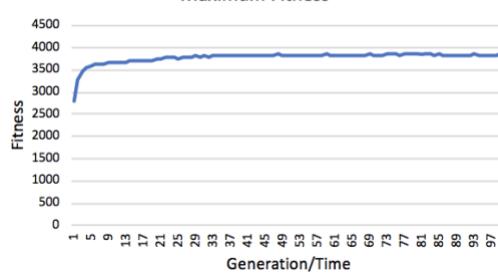
Minimum Fitness



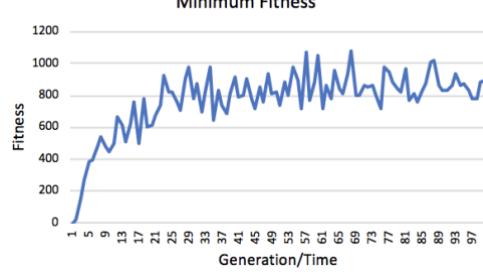
Average Fitness



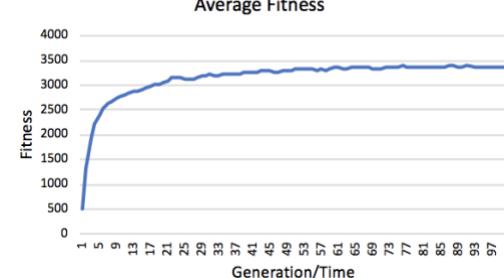
Maximum Fitness



Minimum Fitness



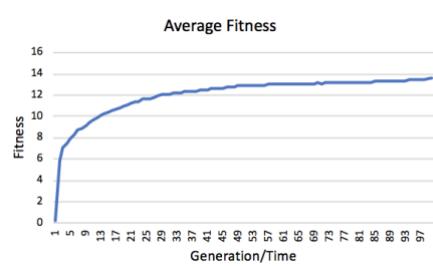
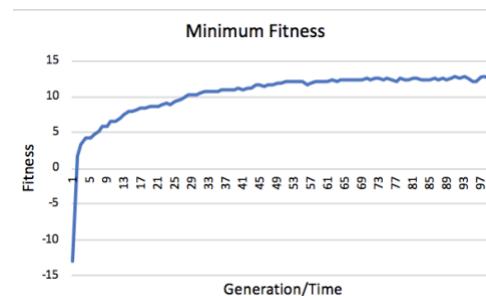
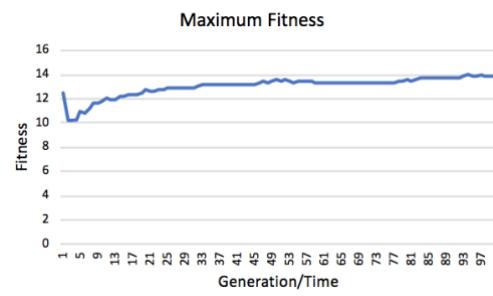
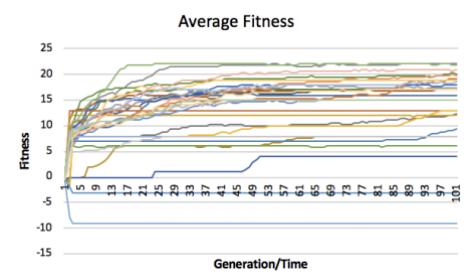
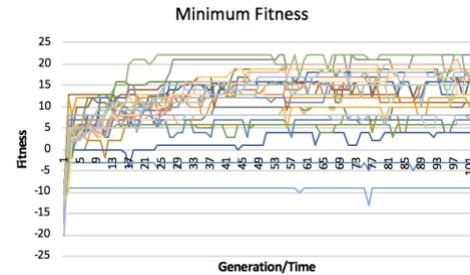
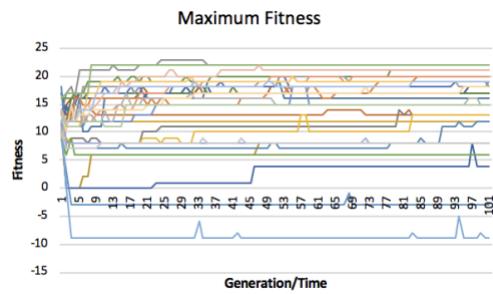
Average Fitness



Function-3

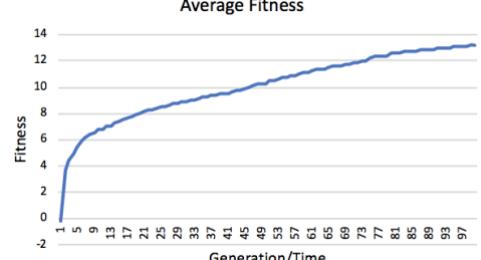
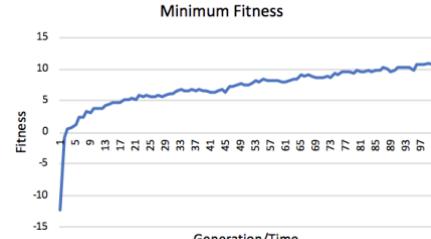
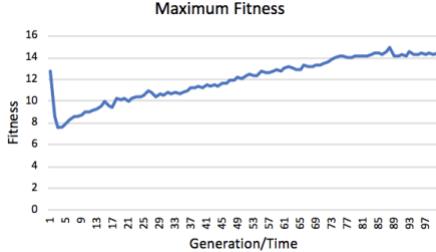
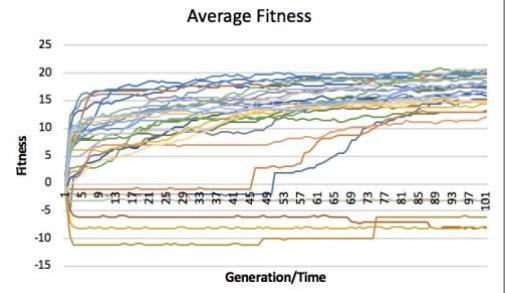
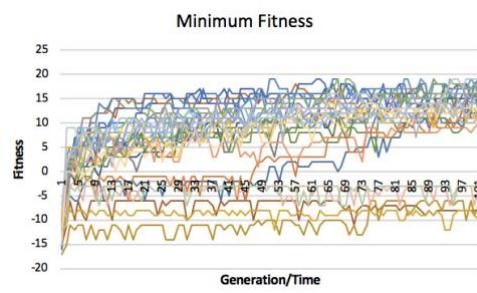
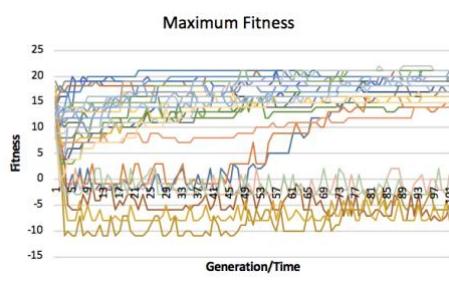
Mutation=0.0001

Crossover=0.2



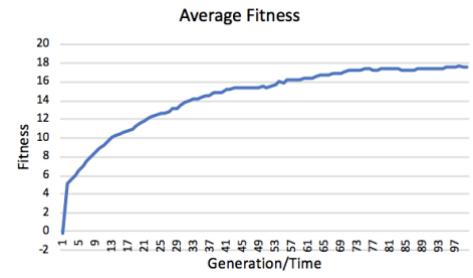
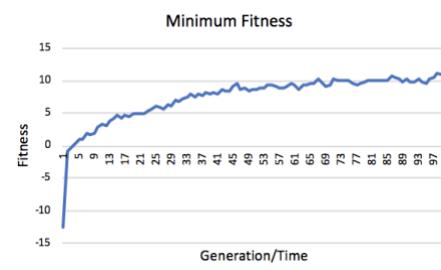
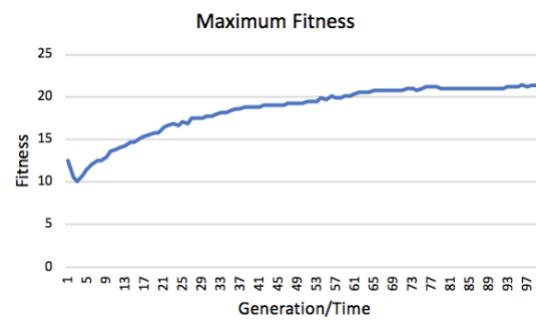
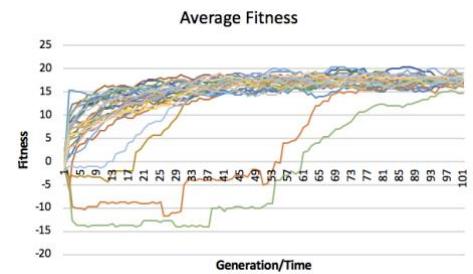
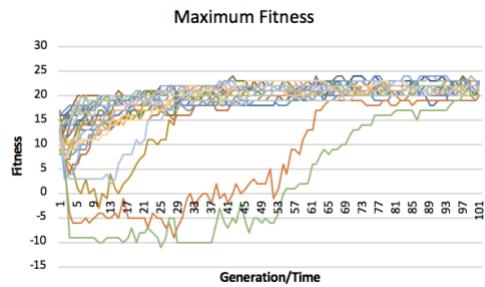
Mutation=0.001

Crossover=0.2



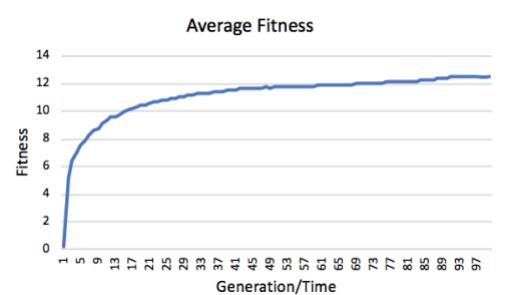
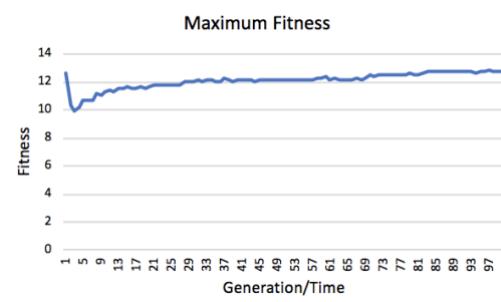
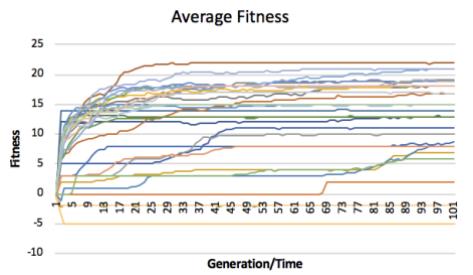
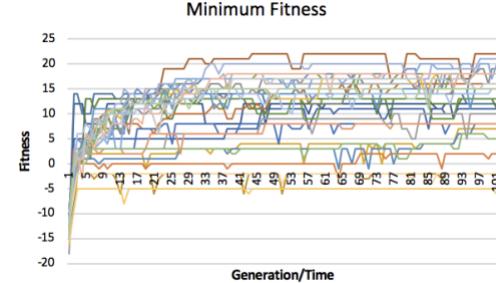
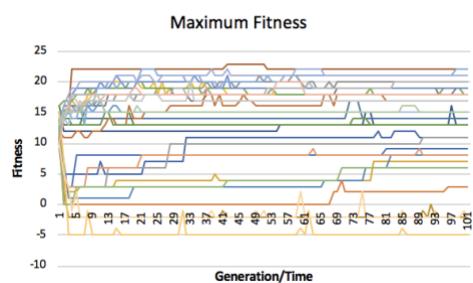
Mutation=0.01

Crossover=0.2



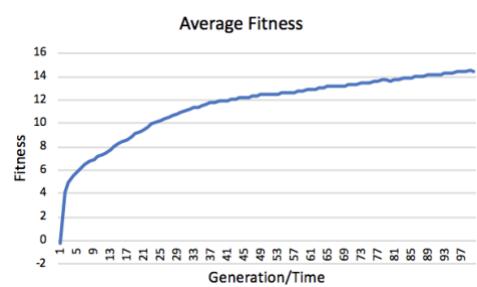
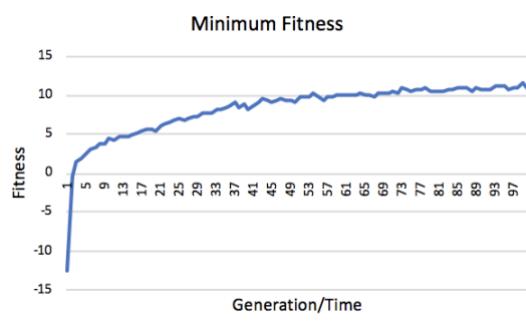
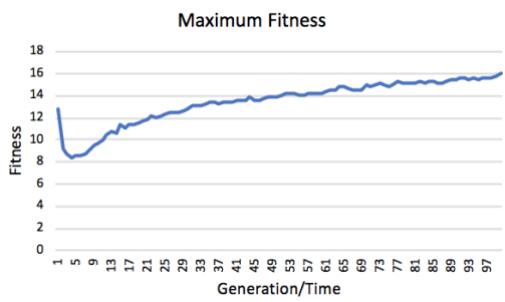
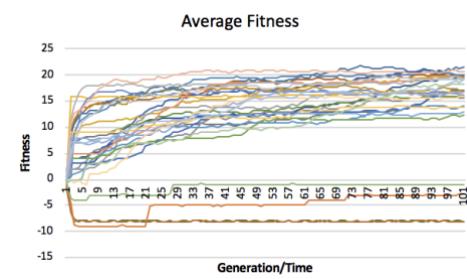
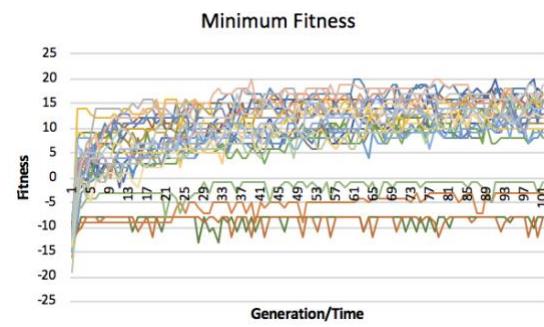
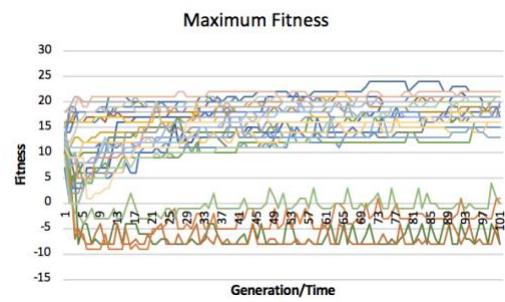
Mutation=0.0001

Crossover=0.67



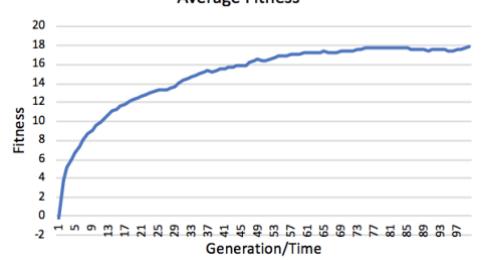
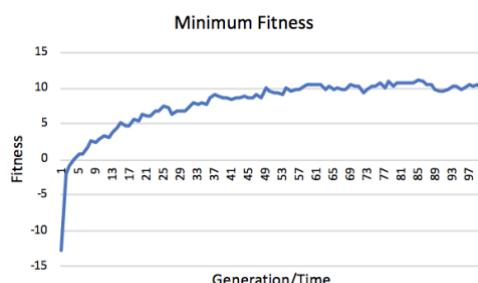
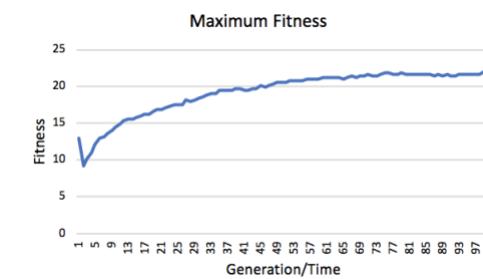
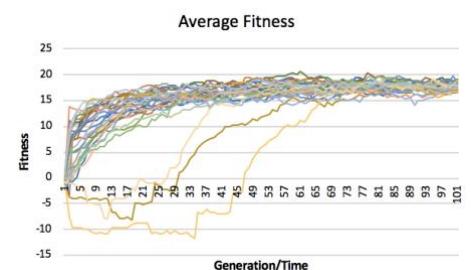
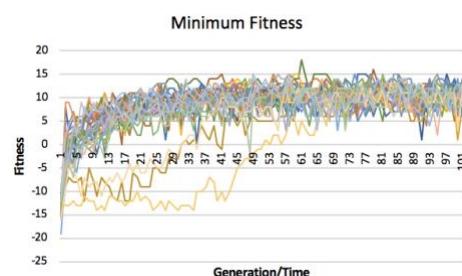
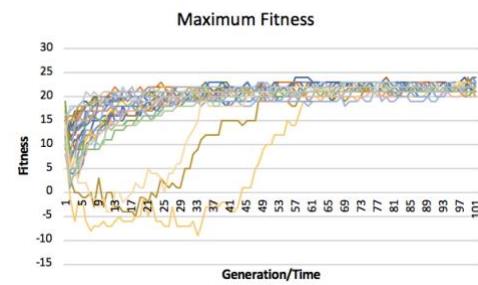
Mutation=0.001

Crossover=0.67

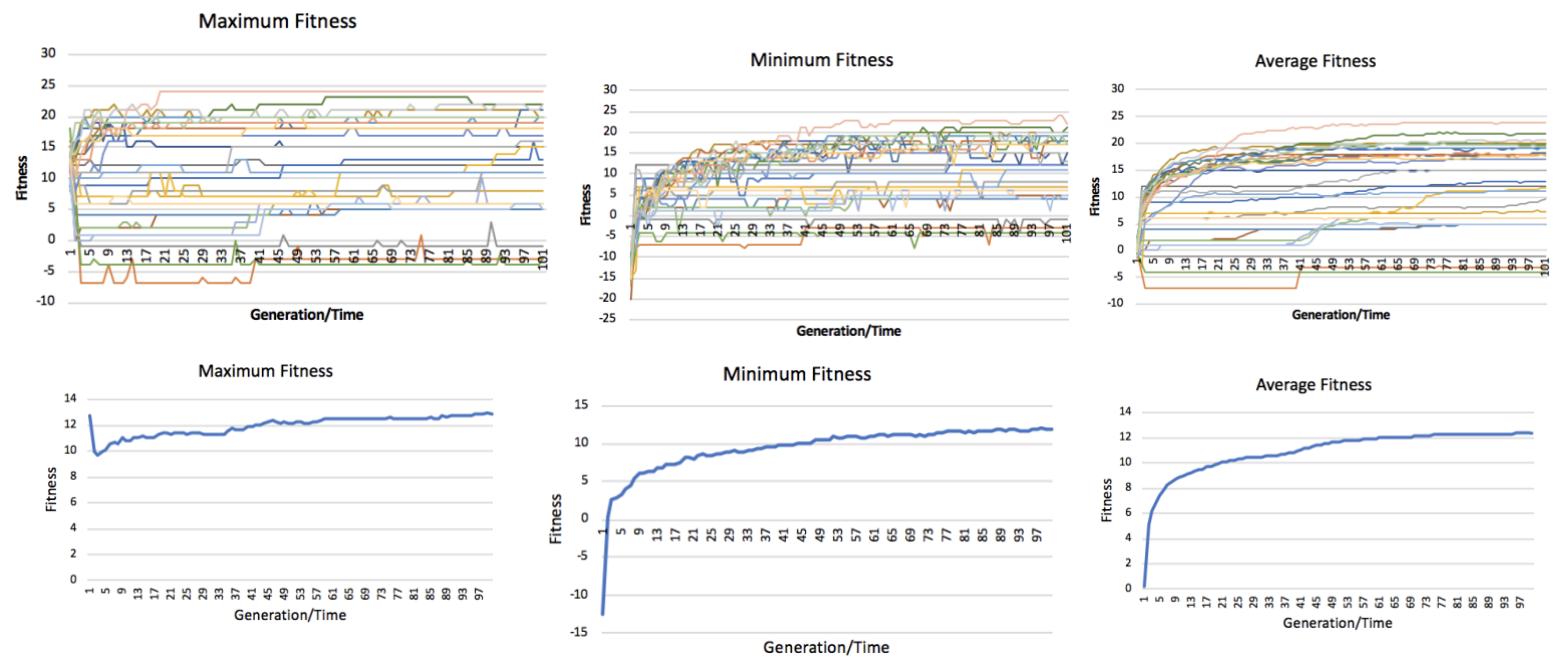


Mutation=0.01

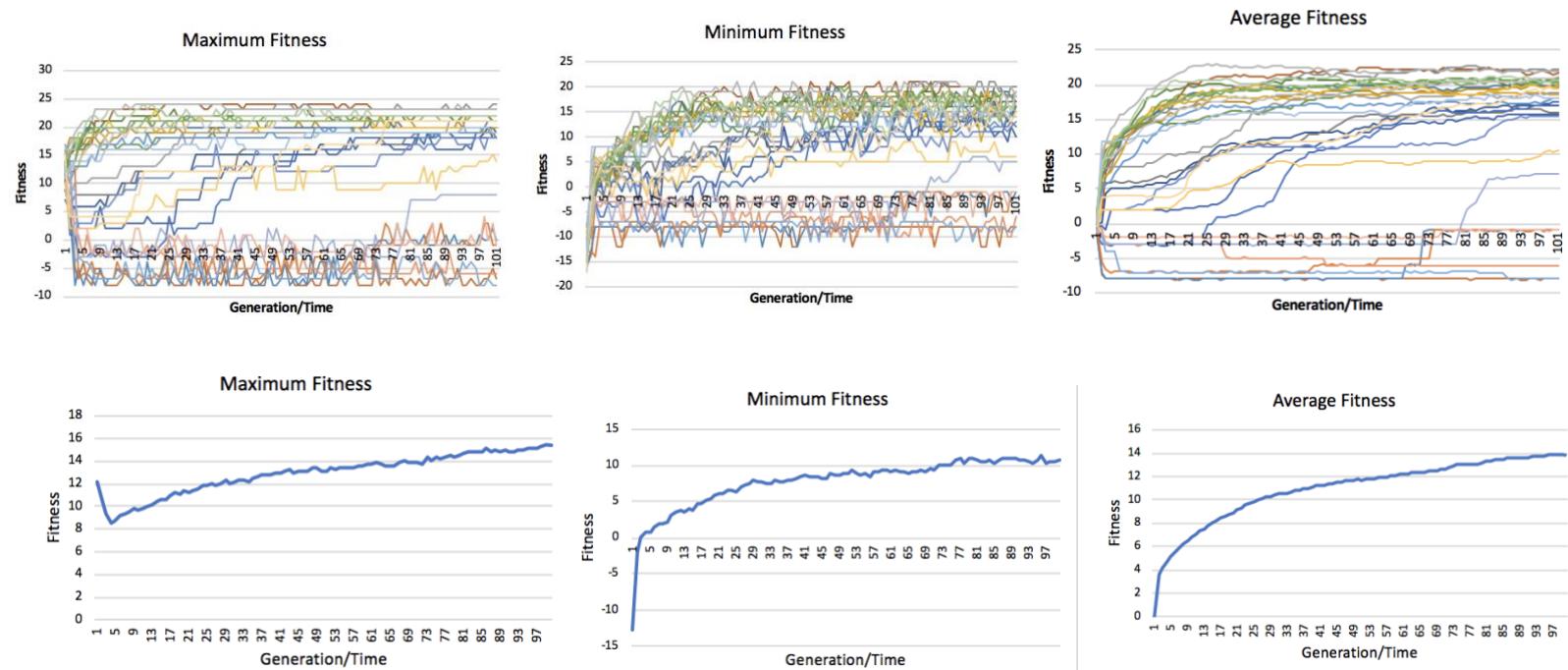
Crossover=0.67



Mutation=0.0001 Crossover=0.99

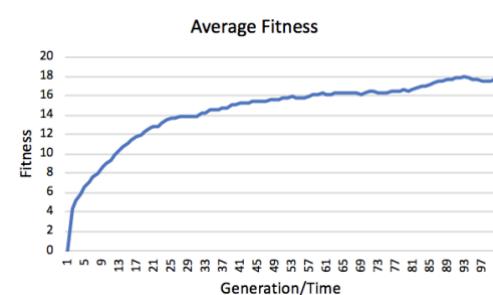
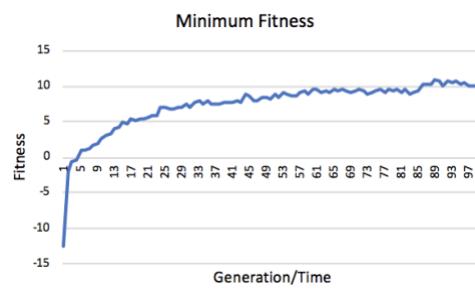
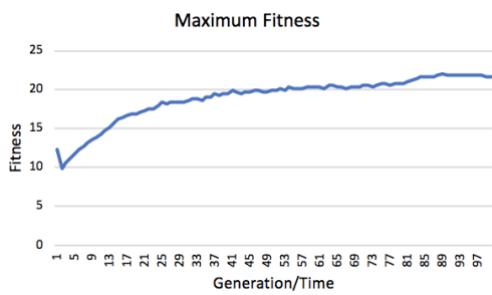
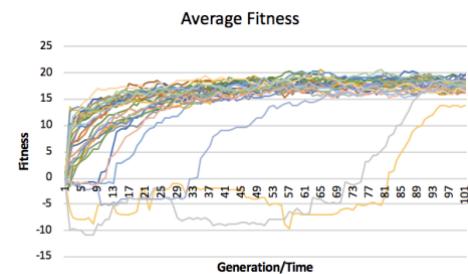
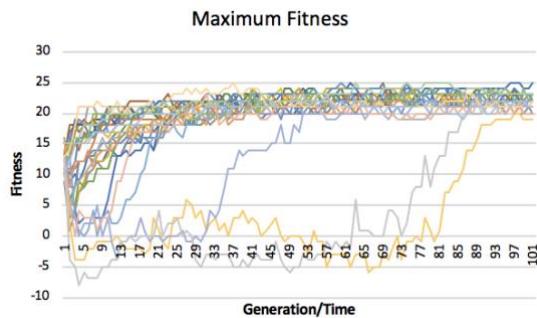


Mutation=0.001 Crossover=0.99



Mutation=0.01

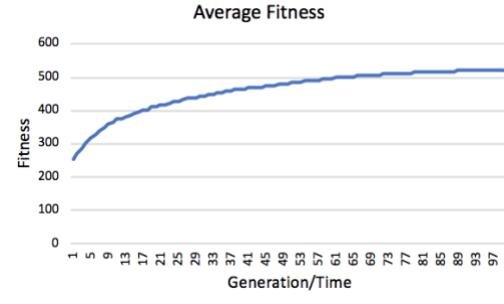
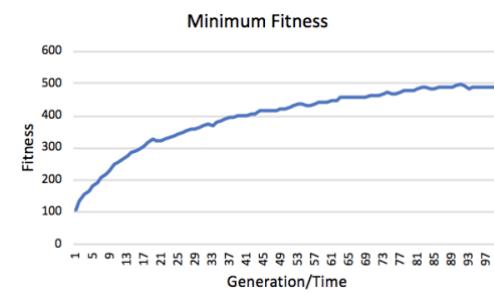
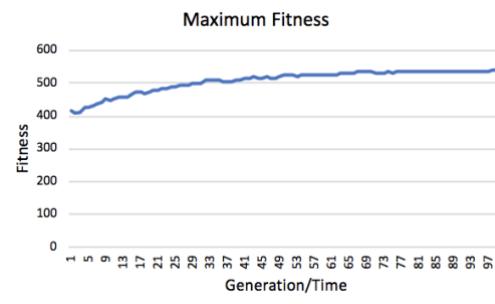
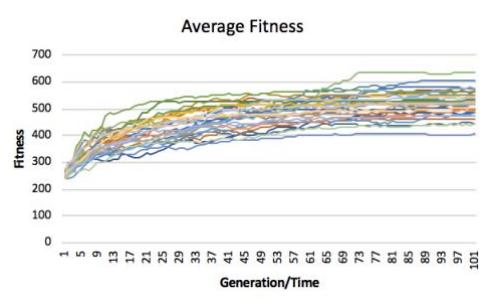
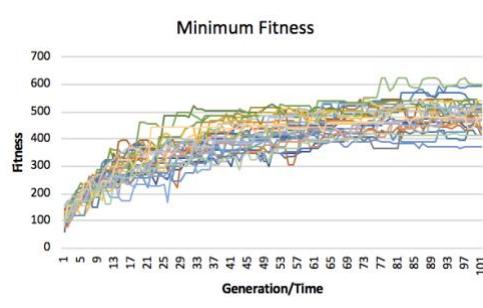
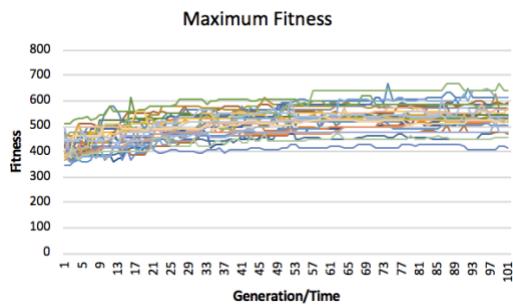
Crossover=0.99



Function-4

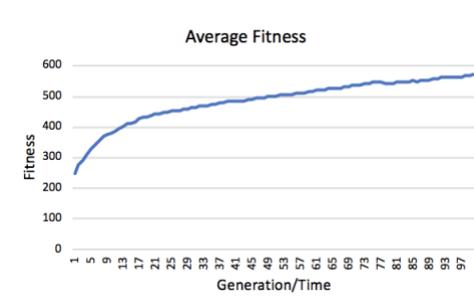
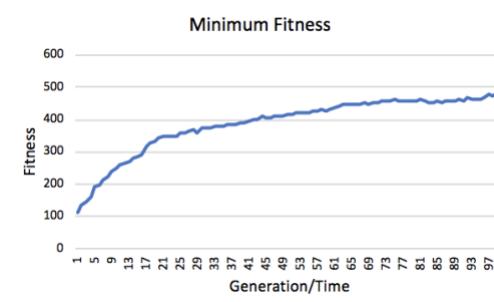
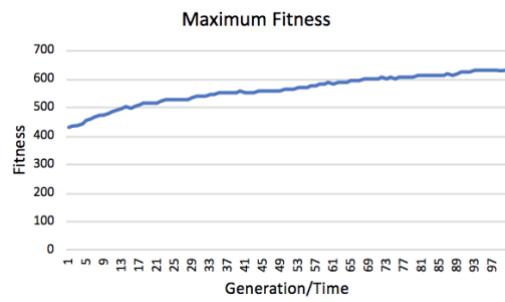
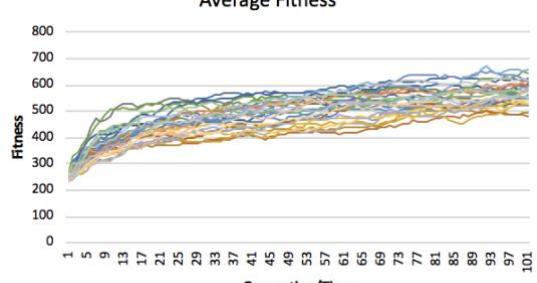
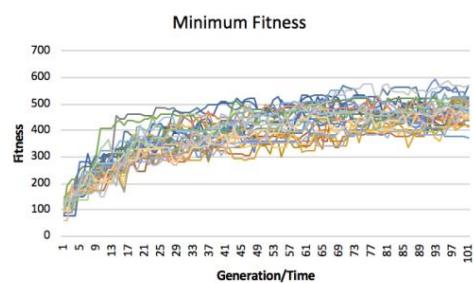
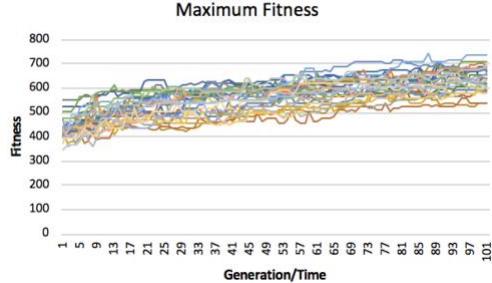
Mutation=0.0001

Crossover=0.2



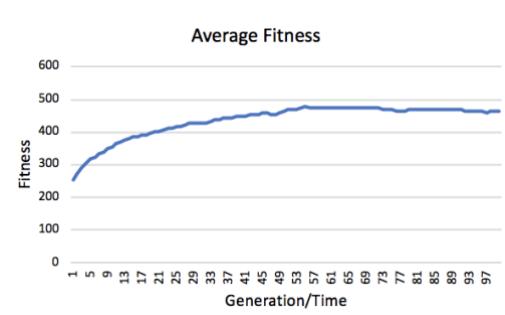
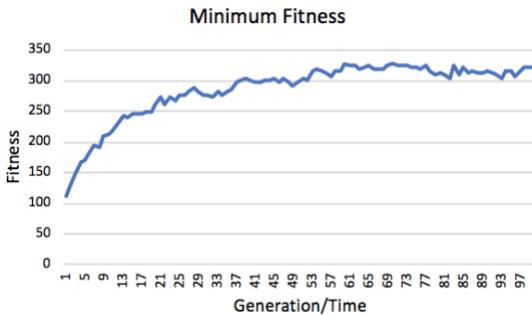
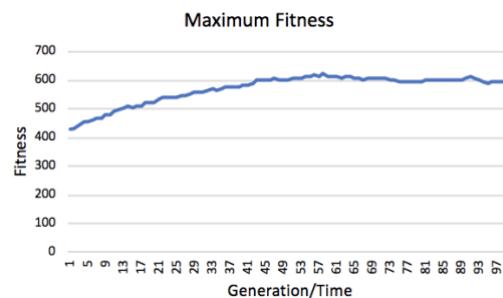
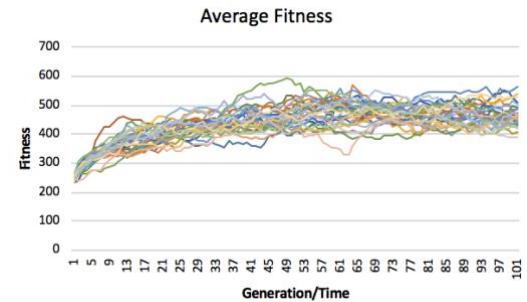
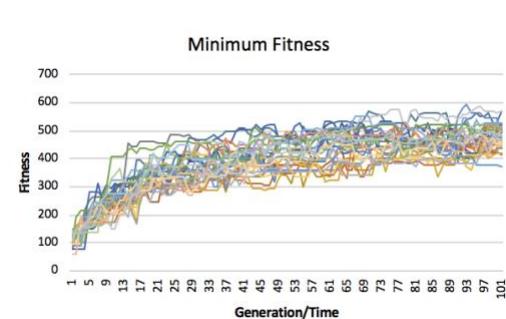
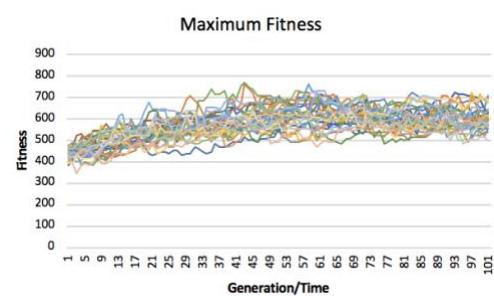
Mutation=0.001

Crossover=0.2



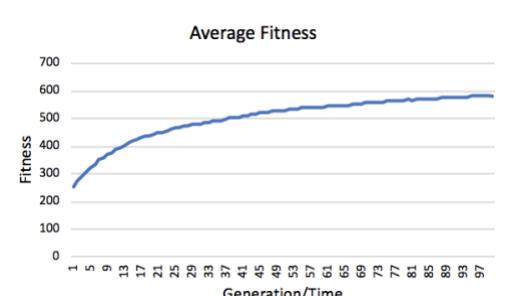
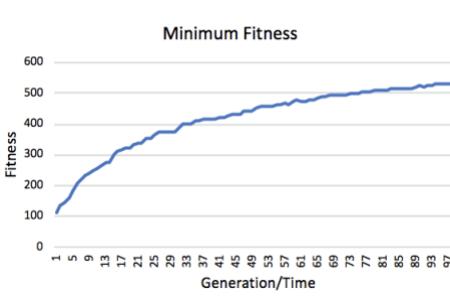
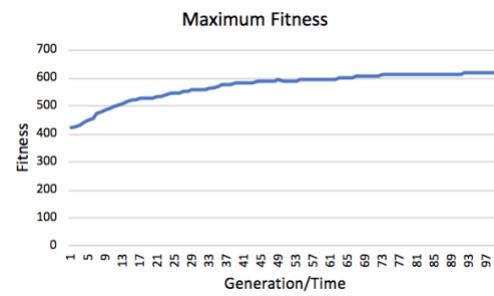
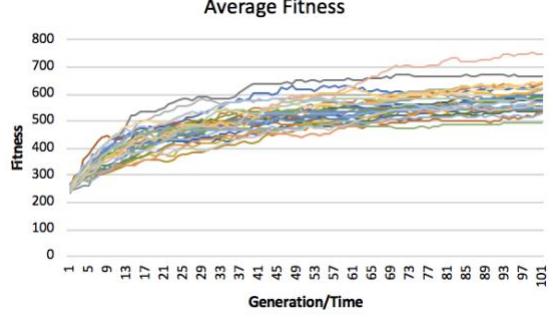
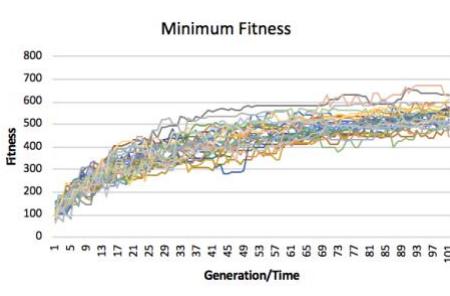
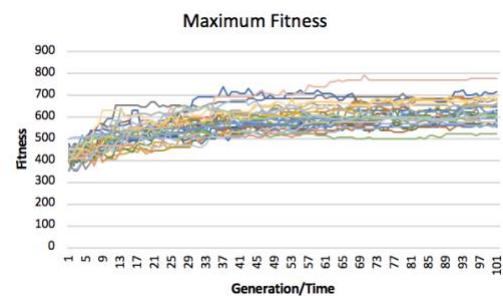
Mutation=0.01

Crossover=0.2



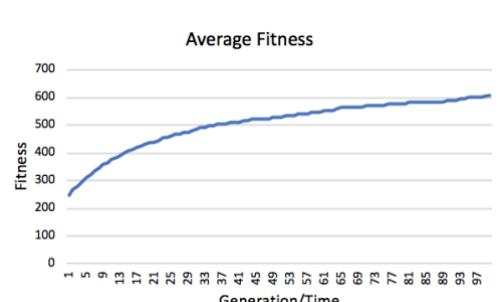
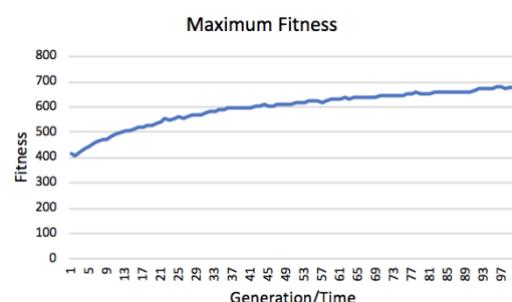
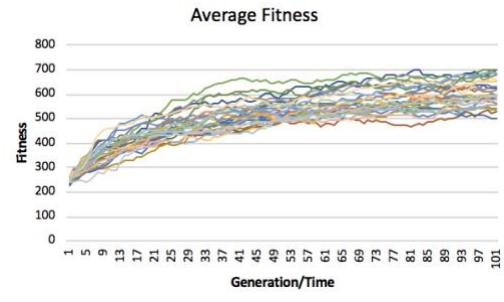
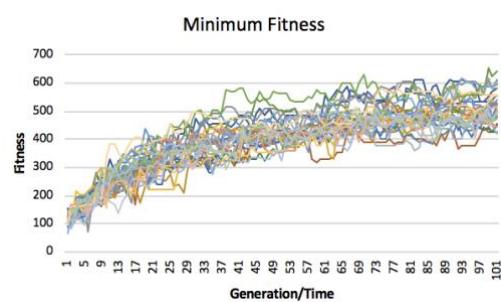
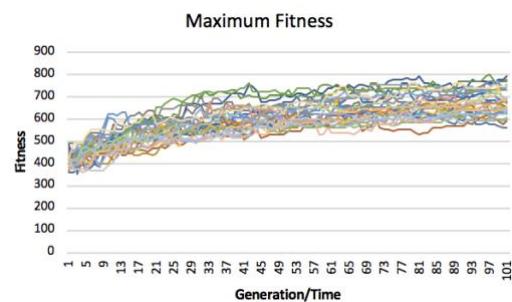
Mutation=0.0001

Crossover=0.67



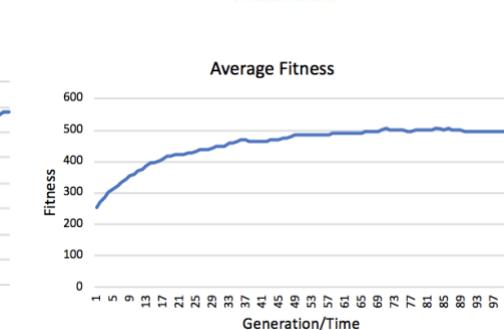
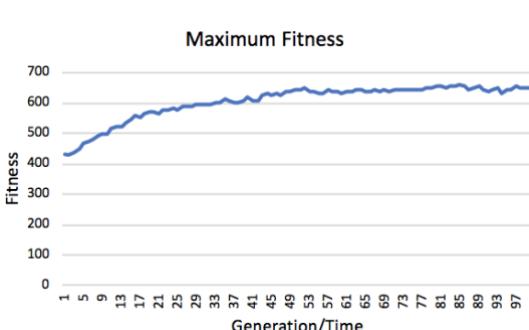
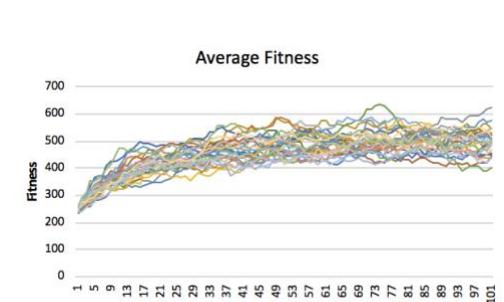
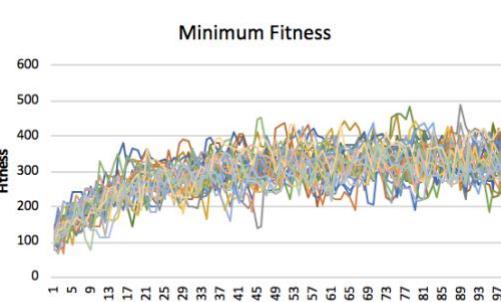
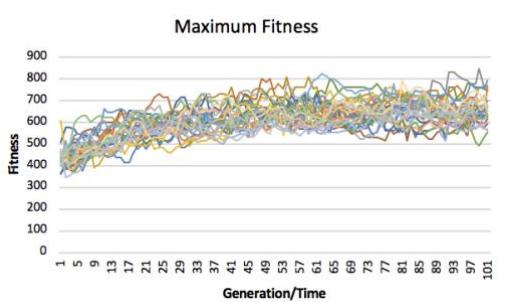
Mutation=0.001

Crossover=0.67

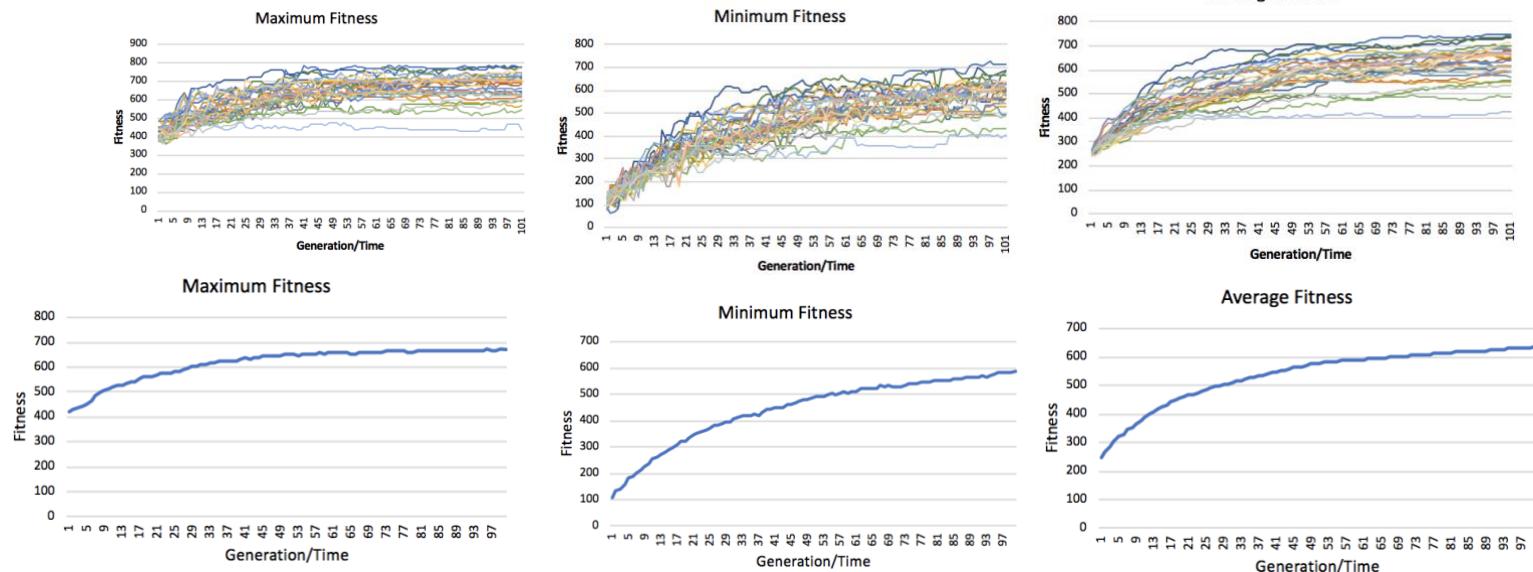


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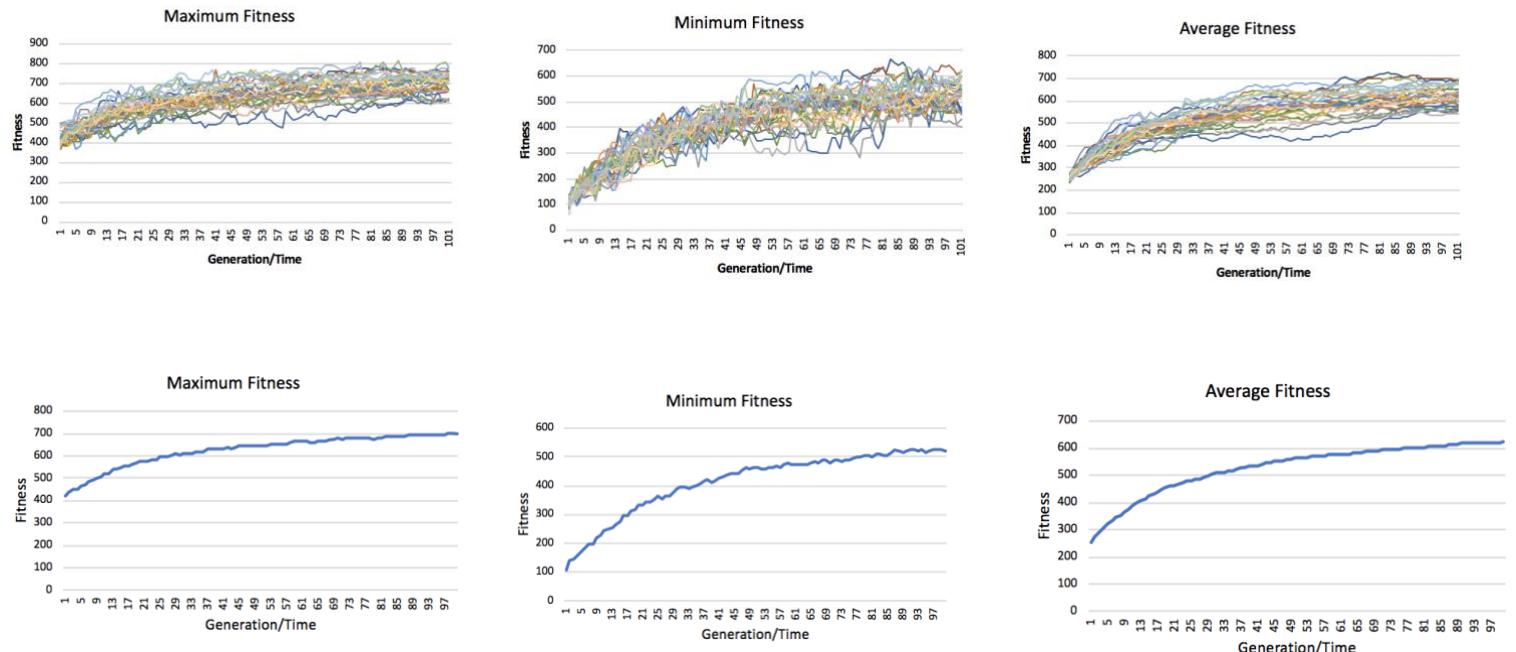
Crossover=0.67



Mutation=0.0001 Crossover=0.99



Mutation=0.001 Crossover=0.99



Mutation=0.01

Crossover=0.99

