GA: Time taken for all generations: 4415.6203 seconds

JSON: saved\_individuals\_2

A graph of a graph of a fitness

Description automatically generated with medium confidence

Params: 26

Fitness function: > 0.1

Mutation: 0.03

Crossover: 0.7

Tournament: 2

Generations: 15

Population: 30

GA: Time taken for all generations: 31533.5996 seconds

A graph of a graph showing different types of fitness

Description automatically generated with medium confidenceJSON: Saved\_individuals\_3

Params: 26

Fitness function: > 0.1

Mutation: 0.03

Crossover: 0.7

Tournament: 3

Population: 100

Generations: 40

ES: Time taken for all generations: 3861.5553 seconds

A graph of a fitness graph

Description automatically generated with medium confidenceJSON: saved\_indiviudals\_4

Params: 26

Fitness function: > 0.1

Mutation: 0.08 with changing mutation step size

Tournament: 3

Population: 30

Generations: 15

A graph of a graph showing different types of fitness

Description automatically generated with medium confidenceA graph of a graph showing the growth of a fitness model

Description automatically generated with medium confidenceGA MU+LAM: JSON

ES MU+LAM

Related Works:

<https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1609619>

can talk about some of the trading strategies they implemented (RSI and MACD)

<https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9960002&tag=1>

multi objective optimization

<https://www.researchgate.net/publication/248816697_Genetic_Algorithms_In_Economics_and_Finance_Forecasting_Stock_Market_Prices_And_Foreign_Exchange_-_A_Review#full-text>

genetic algo

<https://eds.s.ebscohost.com/eds/detail/detail?vid=0&sid=46385804-bae6-40e8-a3ae-07989069e85c%40redis&bdata=JkF1dGhUeXBlPWlwLHNoaWImc2l0ZT1lZHMtbGl2ZQ%3d%3d#AN=edseee.6889969&db=edseee>

neural network improvement

<https://eds.s.ebscohost.com/eds/detail/detail?vid=12&sid=94638792-c9c9-4b25-844b-c66679d793b0%40redis&bdata=JkF1dGhUeXBlPWlwLHNoaWImc2l0ZT1lZHMtbGl2ZQ%3d%3d#AN=143759660&db=aqh>

CNN improvement

<https://eds.s.ebscohost.com/eds/detail/detail?vid=13&sid=94638792-c9c9-4b25-844b-c66679d793b0%40redis&bdata=JkF1dGhUeXBlPWlwLHNoaWImc2l0ZT1lZHMtbGl2ZQ%3d%3d#db=edscma&AN=edscma.3292441>

Genetic neural networks

TENSE

Forward tested or forward-tested

References:

Conclusion:

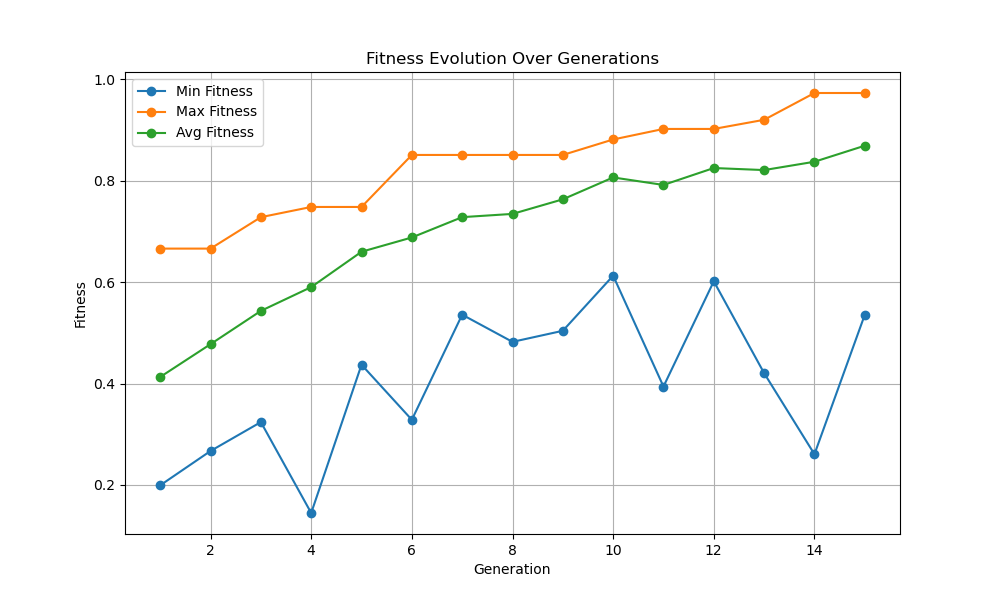
Going forward I would like to look into testing on live data because results could be different. Try to get access to more data (larger historical time period), look at getting even more granular data (tick data). Add more evolutionary strategies so that other parameters can be mutated/changed.

Experiments:

Setup:

Might want to explain the trading strategies.

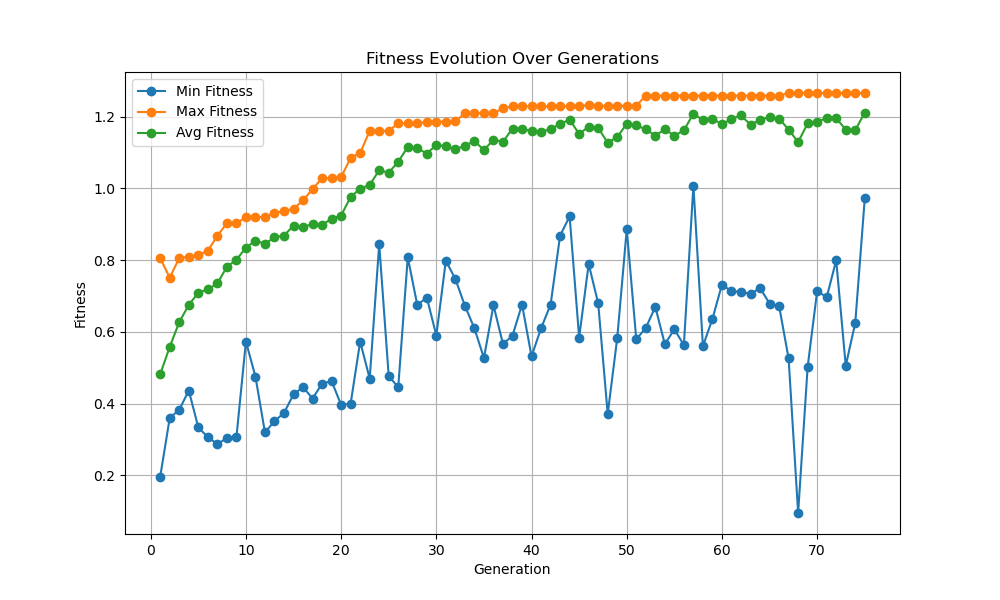
GA: Time taken for all generations: 3590.7175 seconds

JSON: Saved\_individuals\_6

GA: json saved\_individuals\_6

28474.9442 seconds

Generation 75

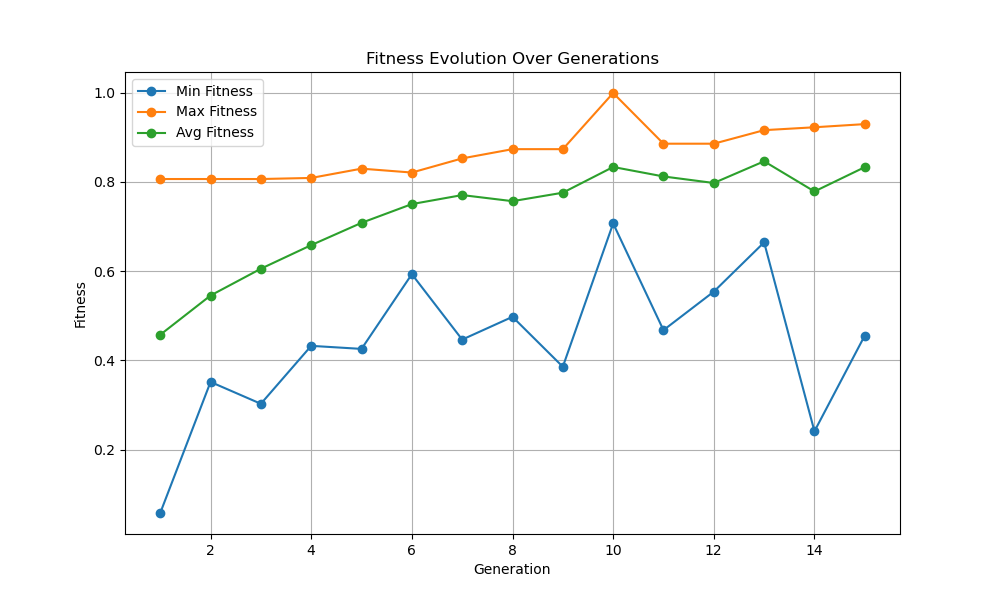
Population 50

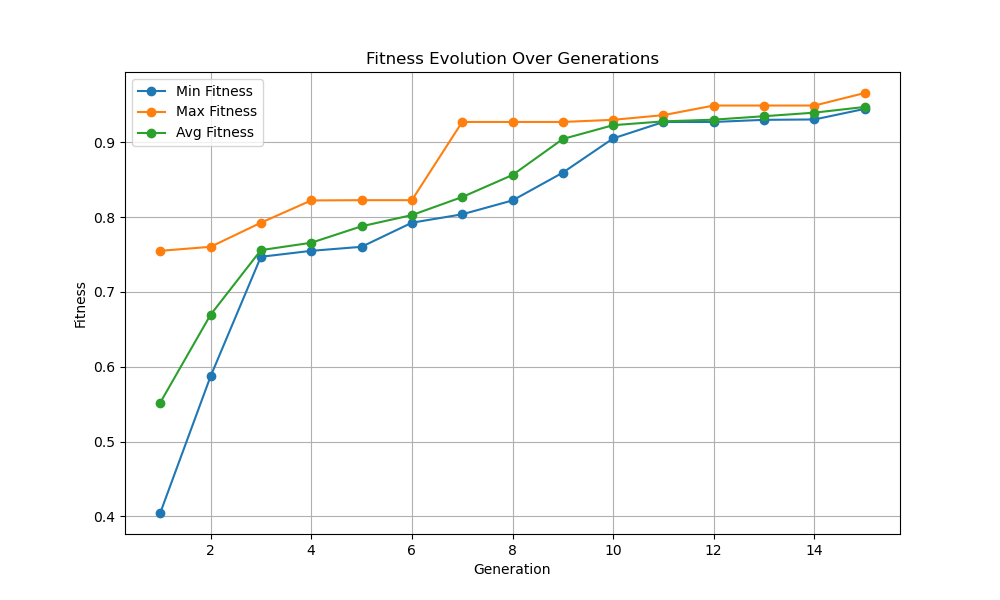
EP JSON 8

Time taken for all generations: 3740.4855 seconds

GA: JSON 9 Time taken for all generations: 3800.5770 seconds

A screen shot of a computer

Description automatically generated

GA MU+LAM JSON 10: 4428.8869