Skynetnim

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Shall we play a game?

1 Paired Programming
2 Game
3 Genetic Algorithms

Genetic Algorithms

1. Selection
2. Crossover
3. Mutation

Our Implementation

1. Fitness function
2. Parameter tuning
3. Training heuristic
4. Exploration vs. Exploitation


```
def getSolutionCosts (navigationCode):
        fuelStopCost = 15
        extraComputationCost = 8
    ➡   thisAlgorithmBecomingSkynetCost = 999999999
        waterCrossingCost = 45
```
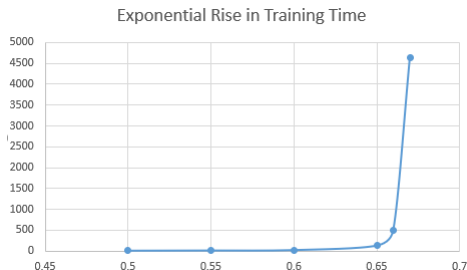
GENETIC ALGORITHMS TIP:
ALWAYS INCLUDE THIS IN YOUR FITNESS FUNCTION

97 stones, pick up to four

Player	Pick 1	Pick 2	Pick 3	Max	Generous	Rand
Pick3	1000	1000	969	384	353	444
Max	1000	1000	509	970	505	536
Reduce	1000	1000	512	505	967	573
Generous	1000	1000	22	483	967	579
Random	1000	1000	22	978	1000	620

I swear by my pretty floral bonnet...

	0.50	0.55	0.60	0.65	0.66	0.67
Average	2.15	6.45	16.45	124.85	500.05	4643.4
Std Dev	1.14	1.64	2.78	76.63	292.28	3712.95

Exponential Rise in Training Time

Getting 0.70 win rate

Questions?