(population\_size, max\_depth, selection\_percentage, crossover\_prob, mutation\_prob)

**python Asincrono\_TFM\_California.py**

**Iteración 86 - (40, 4, 0.4, 0.9, 0.1).** Best fitness: 0.22336392104625702. **Average fitness: 0.24289541617035865** | 79.63%

**Iteración 108** - **(40, 5, 0.6, 0.95, 0.1).** **Best fitness: 0.22177255153656006**. Average fitness: 0.2534295432269573 | 100.0%

**python Sincrono\_TFM\_California.py**

**Iteración 86 - (40, 4, 0.4, 0.9, 0.1).** Best fitness: 0.22753874957561493. **Average fitness: 0.23345246128737926** | 79.63%

**Iteración 5 - (20, 3, 0.5, 0.9, 0.05).** **Best fitness: 0.22460483014583588.** Average fitness: 0.2473740302026272 | 4.63%

**python Asincrono\_TFM\_FIFA.py**

**Iteración 25** - **(20, 5, 0.4, 0.9, 0.05).** Best fitness: 0.8294044733047485. **Average fitness: 0.8138027280569077** | 23.15%

**Iteración 102 - (40, 5, 0.5, 0.9, 0.1). Best fitness: 0.8368486166000366**. Average fitness: 0.7563895814120769 | 94.44%

**python Sincrono\_TFM\_FIFA.py**

**Iteración 26 - (20, 5, 0.4, 0.9, 0.1).** Best fitness: 0.8318858742713928. **Average fitness: 0.8241935461759567** | 24.07%

**Iteración 108 - (40, 5, 0.6, 0.95, 0.1).** **Best fitness: 0.8424317836761475**. Average fitness: 0.8158653825521469 | 100.0%

**python Asincrono\_TFM\_California.py**

Iteración 1 - (20, 3, 0.4, 0.9, 0.05). Best fitness: 0.22538267076015472. Average fitness: 0.24338747859001159 | 0.93%

Iteración 2 - (20, 3, 0.4, 0.9, 0.1). Best fitness: 0.22571146488189697. Average fitness: 0.24782116040587426 | 1.85%

Iteración 3 - (20, 3, 0.4, 0.95, 0.05). Best fitness: 0.22569607198238373. Average fitness: 0.2464047774672508 | 2.78%

Iteración 4 - (20, 3, 0.4, 0.95, 0.1). Best fitness: 0.22330239415168762. Average fitness: 0.24691579416394233 | 3.7%

Iteración 5 - (20, 3, 0.5, 0.9, 0.05). Best fitness: 0.22666850686073303. Average fitness: 0.248858043551445 | 4.63%

Iteración 6 - (20, 3, 0.5, 0.9, 0.1). Best fitness: 0.22548218071460724. Average fitness: 0.24614184200763703 | 5.56%

Iteración 7 - (20, 3, 0.5, 0.95, 0.05). Best fitness: 0.22722335159778595. Average fitness: 0.25350011214613916 | 6.48%

Iteración 8 - (20, 3, 0.5, 0.95, 0.1). Best fitness: 0.22670452296733856. Average fitness: 0.2543527282774448 | 7.41%

Iteración 9 - (20, 3, 0.6, 0.9, 0.05). Best fitness: 0.22468321025371552. Average fitness: 0.25484763607382777 | 8.33%

Iteración 10 - (20, 3, 0.6, 0.9, 0.1). Best fitness: 0.22779707610607147. Average fitness: 0.25506124198436736 | 9.26%

Iteración 11 - (20, 3, 0.6, 0.95, 0.05). Best fitness: 0.2255055159330368. Average fitness: 0.2578494757413864 | 10.19%

Iteración 12 - (20, 3, 0.6, 0.95, 0.1). Best fitness: 0.22629384696483612. Average fitness: 0.25459389239549635 | 11.11%

Iteración 13 - (20, 4, 0.4, 0.9, 0.05). Best fitness: 0.2256486564874649. Average fitness: 0.24619733840227126 | 12.04%

Iteración 14 - (20, 4, 0.4, 0.9, 0.1). Best fitness: 0.22664016485214233. Average fitness: 0.24791715666651726 | 12.96%

Iteración 15 - (20, 4, 0.4, 0.95, 0.05). Best fitness: 0.22481153905391693. Average fitness: 0.24669405594468116 | 13.89%

Iteración 16 - (20, 4, 0.4, 0.95, 0.1). Best fitness: 0.22697049379348755. Average fitness: 0.24572886973619462 | 14.81%

Iteración 17 - (20, 4, 0.5, 0.9, 0.05). Best fitness: 0.22578449547290802. Average fitness: 0.25324531048536303 | 15.74%

Iteración 18 - (20, 4, 0.5, 0.9, 0.1). Best fitness: 0.22633787989616394. Average fitness: 0.25299563333392144 | 16.67%

Iteración 19 - (20, 4, 0.5, 0.95, 0.05). Best fitness: 0.22346830368041992. Average fitness: 0.24838743656873702 | 17.59%

Iteración 20 - (20, 4, 0.5, 0.95, 0.1). Best fitness: 0.22521339356899261. Average fitness: 0.2517825625836849 | 18.52%

Iteración 21 - (20, 4, 0.6, 0.9, 0.05). Best fitness: 0.22744153439998627. Average fitness: 0.24839248284697532 | 19.44%

Iteración 22 - (20, 4, 0.6, 0.9, 0.1). Best fitness: 0.22578592598438263. Average fitness: 0.2617532752454281 | 20.37%

Iteración 23 - (20, 4, 0.6, 0.95, 0.05). Best fitness: 0.2246589958667755. Average fitness: 0.25325891822576524 | 21.3%

Iteración 24 - (20, 4, 0.6, 0.95, 0.1). Best fitness: 0.22584782540798187. Average fitness: 0.2546962782740593 | 22.22%

Iteración 25 - (20, 5, 0.4, 0.9, 0.05). Best fitness: 0.2258550375699997. Average fitness: 0.24972037896513938 | 23.15%

Iteración 26 - (20, 5, 0.4, 0.9, 0.1). Best fitness: 0.22433488070964813. Average fitness: 0.24502080529928208 | 24.07%

Iteración 27 - (20, 5, 0.4, 0.95, 0.05). Best fitness: 0.225063756108284. Average fitness: 0.24537654221057892 | 25.0%

Iteración 28 - (20, 5, 0.4, 0.95, 0.1). Best fitness: 0.22357232868671417. Average fitness: 0.24765365496277808 | 25.93%

Iteración 29 - (20, 5, 0.5, 0.9, 0.05). Best fitness: 0.22521761059761047. Average fitness: 0.25216002464294435 | 26.85%

Iteración 30 - (20, 5, 0.5, 0.9, 0.1). Best fitness: 0.2252965271472931. Average fitness: 0.2506375715136528 | 27.78%

Iteración 31 - (20, 5, 0.5, 0.95, 0.05). Best fitness: 0.22288791835308075. Average fitness: 0.24690965041518212 | 28.7%

Iteración 32 - (20, 5, 0.5, 0.95, 0.1). Best fitness: 0.22586536407470703. Average fitness: 0.251076190918684 | 29.63%

Iteración 33 - (20, 5, 0.6, 0.9, 0.05). Best fitness: 0.2237005978822708. Average fitness: 0.2560302667319775 | 30.56%

Iteración 34 - (20, 5, 0.6, 0.9, 0.1). Best fitness: 0.22488214075565338. Average fitness: 0.2559868983924389 | 31.48%

Iteración 35 - (20, 5, 0.6, 0.95, 0.05). Best fitness: 0.2257639765739441. Average fitness: 0.2584727294743061 | 32.41%

Iteración 36 - (20, 5, 0.6, 0.95, 0.1). Best fitness: 0.22568824887275696. Average fitness: 0.2548274718225002 | 33.33%

Iteración 37 - (30, 3, 0.4, 0.9, 0.05). Best fitness: 0.2261742651462555. Average fitness: 0.24345630246400834 | 34.26%

Iteración 38 - (30, 3, 0.4, 0.9, 0.1). Best fitness: 0.2261795848608017. Average fitness: 0.24535546551148096 | 35.19%

Iteración 39 - (30, 3, 0.4, 0.95, 0.05). Best fitness: 0.22477349638938904. Average fitness: 0.2435139213204384 | 36.11%

Iteración 40 - (30, 3, 0.4, 0.95, 0.1). Best fitness: 0.22486312687397003. Average fitness: 0.2451147605975469 | 37.04%

Iteración 41 - (30, 3, 0.5, 0.9, 0.05). Best fitness: 0.22575096786022186. Average fitness: 0.25421966314315797 | 37.96%

Iteración 42 - (30, 3, 0.5, 0.9, 0.1). Best fitness: 0.22611203789710999. Average fitness: 0.24886629780133565 | 38.89%

Iteración 43 - (30, 3, 0.5, 0.95, 0.05). Best fitness: 0.22486275434494019. Average fitness: 0.2508508861064911 | 39.81%

Iteración 44 - (30, 3, 0.5, 0.95, 0.1). Best fitness: 0.22584810853004456. Average fitness: 0.25137050648530324 | 40.74%

Iteración 45 - (30, 3, 0.6, 0.9, 0.05). Best fitness: 0.2255338430404663. Average fitness: 0.25678680489460626 | 41.67%

Iteración 46 - (30, 3, 0.6, 0.9, 0.1). Best fitness: 0.22474370896816254. Average fitness: 0.251650670170784 | 42.59%

Iteración 47 - (30, 3, 0.6, 0.95, 0.05). Best fitness: 0.22558192908763885. Average fitness: 0.25727709929148357 | 43.52%

Iteración 48 - (30, 3, 0.6, 0.95, 0.1). Best fitness: 0.22633467614650726. Average fitness: 0.25211754937966663 | 44.44%

Iteración 49 - (30, 4, 0.4, 0.9, 0.05). Best fitness: 0.2242806851863861. Average fitness: 0.24544038971265156 | 45.37%

Iteración 50 - (30, 4, 0.4, 0.9, 0.1). Best fitness: 0.2230217456817627. Average fitness: 0.24868543446063995 | 46.3%

Iteración 51 - (30, 4, 0.4, 0.95, 0.05). Best fitness: 0.22624234855175018. Average fitness: 0.24998594522476197 | 47.22%

Iteración 52 - (30, 4, 0.4, 0.95, 0.1). Best fitness: 0.2230696678161621. Average fitness: 0.24864391088485718 | 48.15%

Iteración 53 - (30, 4, 0.5, 0.9, 0.05). Best fitness: 0.2261870801448822. Average fitness: 0.2435249586502711 | 49.07%

Iteración 54 - (30, 4, 0.5, 0.9, 0.1). Best fitness: 0.22502213716506958. Average fitness: 0.24915359715620677 | 50.0%

Iteración 55 - (30, 4, 0.5, 0.95, 0.05). Best fitness: 0.22276149690151215. Average fitness: 0.24937523702780406 | 50.93%

Iteración 56 - (30, 4, 0.5, 0.95, 0.1). Best fitness: 0.22488845884799957. Average fitness: 0.25119935820500056 | 51.85%

Iteración 57 - (30, 4, 0.6, 0.9, 0.05). Best fitness: 0.2261400669813156. Average fitness: 0.25023527840773263 | 52.78%

Iteración 58 - (30, 4, 0.6, 0.9, 0.1). Best fitness: 0.22467643022537231. Average fitness: 0.2535067011912664 | 53.7%

Iteración 59 - (30, 4, 0.6, 0.95, 0.05). Best fitness: 0.22582383453845978. Average fitness: 0.2592641030748685 | 54.63%

Iteración 60 - (30, 4, 0.6, 0.95, 0.1). Best fitness: 0.22526581585407257. Average fitness: 0.25433633079131446 | 55.56%

Iteración 61 - (30, 5, 0.4, 0.9, 0.05). Best fitness: 0.2251666933298111. Average fitness: 0.24521963795026144 | 56.48%

Iteración 62 - (30, 5, 0.4, 0.9, 0.1). Best fitness: 0.2260175347328186. Average fitness: 0.24847950438658398 | 57.41%

Iteración 63 - (30, 5, 0.4, 0.95, 0.05). Best fitness: 0.22484412789344788. Average fitness: 0.24604460299015046 | 58.33%

Iteración 64 - (30, 5, 0.4, 0.95, 0.1). Best fitness: 0.2236439287662506. Average fitness: 0.24630510658025742 | 59.26%

Iteración 65 - (30, 5, 0.5, 0.9, 0.05). Best fitness: 0.22304245829582214. Average fitness: 0.25049936324357985 | 60.19%

Iteración 66 - (30, 5, 0.5, 0.9, 0.1). Best fitness: 0.22456113994121552. Average fitness: 0.2501878182093302 | 61.11%

Iteración 67 - (30, 5, 0.5, 0.95, 0.05). Best fitness: 0.2222137153148651. Average fitness: 0.2510814090569814 | 62.04%

Iteración 68 - (30, 5, 0.5, 0.95, 0.1). Best fitness: 0.22408504784107208. Average fitness: 0.2506026471654574 | 62.96%

Iteración 69 - (30, 5, 0.6, 0.9, 0.05). Best fitness: 0.22240979969501495. Average fitness: 0.2493600681424141 | 63.89%

Iteración 70 - (30, 5, 0.6, 0.9, 0.1). Best fitness: 0.22638700902462006. Average fitness: 0.2528781001766523 | 64.81%

Iteración 71 - (30, 5, 0.6, 0.95, 0.05). Best fitness: 0.2265128344297409. Average fitness: 0.25215315669775007 | 65.74%

Iteración 72 - (30, 5, 0.6, 0.95, 0.1). Best fitness: 0.2218717336654663. Average fitness: 0.25516000340382256 | 66.67%

Iteración 73 - (40, 3, 0.4, 0.9, 0.05). Best fitness: 0.22512108087539673. Average fitness: 0.24911564625799656 | 67.59%

Iteración 74 - (40, 3, 0.4, 0.9, 0.1). Best fitness: 0.2255203127861023. Average fitness: 0.2492408011108637 | 68.52%

Iteración 75 - (40, 3, 0.4, 0.95, 0.05). Best fitness: 0.22687947750091553. Average fitness: 0.24595755897462368 | 69.44%

Iteración 76 - (40, 3, 0.4, 0.95, 0.1). Best fitness: 0.2244749516248703. Average fitness: 0.2442304842174053 | 70.37%

Iteración 77 - (40, 3, 0.5, 0.9, 0.05). Best fitness: 0.22650709748268127. Average fitness: 0.25028397552669046 | 71.3%

Iteración 78 - (40, 3, 0.5, 0.9, 0.1). Best fitness: 0.22472603619098663. Average fitness: 0.2501035001128912 | 72.22%

Iteración 79 - (40, 3, 0.5, 0.95, 0.05). Best fitness: 0.22458425164222717. Average fitness: 0.2541177023202181 | 73.15%

Iteración 80 - (40, 3, 0.5, 0.95, 0.1). Best fitness: 0.22431349754333496. Average fitness: 0.2505649570375681 | 74.07%

Iteración 81 - (40, 3, 0.6, 0.9, 0.05). Best fitness: 0.22537125647068024. Average fitness: 0.25020289830863474 | 75.0%

Iteración 82 - (40, 3, 0.6, 0.9, 0.1). Best fitness: 0.22493378818035126. Average fitness: 0.25804403424263 | 75.93%

Iteración 83 - (40, 3, 0.6, 0.95, 0.05). Best fitness: 0.2256816327571869. Average fitness: 0.2575826711952686 | 76.85%

Iteración 84 - (40, 3, 0.6, 0.95, 0.1). Best fitness: 0.22423958778381348. Average fitness: 0.25287652388215065 | 77.78%

Iteración 85 - (40, 4, 0.4, 0.9, 0.05). Best fitness: 0.2257796972990036. Average fitness: 0.24701135754585266 | 78.7%

**Iteración 86 - (40, 4, 0.4, 0.9, 0.1).** Best fitness: 0.22336392104625702. **Average fitness: 0.24289541617035865** | 79.63%

Iteración 87 - (40, 4, 0.4, 0.95, 0.05). Best fitness: 0.2246321737766266. Average fitness: 0.245115876942873 | 80.56%

Iteración 88 - (40, 4, 0.4, 0.95, 0.1). Best fitness: 0.22342167794704437. Average fitness: 0.24496682845056056 | 81.48%

Iteración 89 - (40, 4, 0.5, 0.9, 0.05). Best fitness: 0.22432713210582733. Average fitness: 0.25299627147614956 | 82.41%

Iteración 90 - (40, 4, 0.5, 0.9, 0.1). Best fitness: 0.22352100908756256. Average fitness: 0.24909440688788892 | 83.33%

Iteración 91 - (40, 4, 0.5, 0.95, 0.05). Best fitness: 0.22701521217823029. Average fitness: 0.2471264623105526 | 84.26%

Iteración 92 - (40, 4, 0.5, 0.95, 0.1). Best fitness: 0.22582362592220306. Average fitness: 0.2527238093316555 | 85.19%

Iteración 93 - (40, 4, 0.6, 0.9, 0.05). Best fitness: 0.22555533051490784. Average fitness: 0.2527900580316782 | 86.11%

Iteración 94 - (40, 4, 0.6, 0.9, 0.1). Best fitness: 0.2230847179889679. Average fitness: 0.25433185137808323 | 87.04%

Iteración 95 - (40, 4, 0.6, 0.95, 0.05). Best fitness: 0.2231781929731369. Average fitness: 0.25417209342122077 | 87.96%

Iteración 96 - (40, 4, 0.6, 0.95, 0.1). Best fitness: 0.224631667137146. Average fitness: 0.2565188866108656 | 88.89%

Iteración 97 - (40, 5, 0.4, 0.9, 0.05). Best fitness: 0.22334705293178558. Average fitness: 0.24581897370517253 | 89.81%

Iteración 98 - (40, 5, 0.4, 0.9, 0.1). Best fitness: 0.224554643034935. Average fitness: 0.24461048431694507 | 90.74%

Iteración 99 - (40, 5, 0.4, 0.95, 0.05). Best fitness: 0.22370001673698425. Average fitness: 0.2452154777944088 | 91.67%

Iteración 100 - (40, 5, 0.4, 0.95, 0.1). Best fitness: 0.22187817096710205. Average fitness: 0.2456844411790371 | 92.59%

Iteración 101 - (40, 5, 0.5, 0.9, 0.05). Best fitness: 0.2242981344461441. Average fitness: 0.25267089195549486 | 93.52%

Iteración 102 - (40, 5, 0.5, 0.9, 0.1). Best fitness: 0.22497963905334473. Average fitness: 0.25090584084391593 | 94.44%

Iteración 103 - (40, 5, 0.5, 0.95, 0.05). Best fitness: 0.22472533583641052. Average fitness: 0.246689185872674 | 95.37%

Iteración 104 - (40, 5, 0.5, 0.95, 0.1). Best fitness: 0.22411976754665375. Average fitness: 0.24575948901474476 | 96.3%

Iteración 105 - (40, 5, 0.6, 0.9, 0.05). Best fitness: 0.22640666365623474. Average fitness: 0.2524277437478304 | 97.22%

Iteración 106 - (40, 5, 0.6, 0.9, 0.1). Best fitness: 0.22407633066177368. Average fitness: 0.2530328933149576 | 98.15%

Iteración 107 - (40, 5, 0.6, 0.95, 0.05). Best fitness: 0.22247092425823212. Average fitness: 0.25051677264273164 | 99.07%

**Iteración 108** - (40, 5, 0.6, 0.95, 0.1). **Best fitness: 0.22177255153656006**. Average fitness: 0.2534295432269573 | 100.0%

**python Asincrono\_TFM\_FIFA.py**

Iteración 1 - (20, 3, 0.4, 0.9, 0.05). Best fitness: 0.8232010006904602. Average fitness: 0.8070099204778671 | 0.93%

Iteración 2 - (20, 3, 0.4, 0.9, 0.1). Best fitness: 0.8169975280761719. Average fitness: 0.7665632739663124 | 1.85%

Iteración 3 - (20, 3, 0.4, 0.95, 0.05). Best fitness: 0.8232010006904602. Average fitness: 0.8021402031183242 | 2.78%

Iteración 4 - (20, 3, 0.4, 0.95, 0.1). Best fitness: 0.8188585638999939. Average fitness: 0.7686724588274956 | 3.7%

Iteración 5 - (20, 3, 0.5, 0.9, 0.05). Best fitness: 0.8300248384475708. Average fitness: 0.8077233254909515 | 4.63%

Iteración 6 - (20, 3, 0.5, 0.9, 0.1). Best fitness: 0.8213399648666382. Average fitness: 0.798790329694748 | 5.56%

Iteración 7 - (20, 3, 0.5, 0.95, 0.05). Best fitness: 0.8238213658332825. Average fitness: 0.8098325073719025 | 6.48%

Iteración 8 - (20, 3, 0.5, 0.95, 0.1). Best fitness: 0.8200992345809937. Average fitness: 0.7941377222537994 | 7.41%

Iteración 9 - (20, 3, 0.6, 0.9, 0.05). Best fitness: 0.8250620365142822. Average fitness: 0.8036600470542907 | 8.33%

Iteración 10 - (20, 3, 0.6, 0.9, 0.1). Best fitness: 0.8312655091285706. Average fitness: 0.8043424308300018 | 9.26%

Iteración 11 - (20, 3, 0.6, 0.95, 0.05). Best fitness: 0.8213399648666382. Average fitness: 0.7701923072338104 | 10.19%

Iteración 12 - (20, 3, 0.6, 0.95, 0.1). Best fitness: 0.8238213658332825. Average fitness: 0.8046526044607163 | 11.11%

Iteración 13 - (20, 4, 0.4, 0.9, 0.05). Best fitness: 0.8269230723381042. Average fitness: 0.8091811418533326 | 12.04%

Iteración 14 - (20, 4, 0.4, 0.9, 0.1). Best fitness: 0.8207195997238159. Average fitness: 0.7932692259550095 | 12.96%

Iteración 15 - (20, 4, 0.4, 0.95, 0.05). Best fitness: 0.8238213658332825. Average fitness: 0.7743796586990357 | 13.89%

Iteración 16 - (20, 4, 0.4, 0.95, 0.1). Best fitness: 0.8188585638999939. Average fitness: 0.7991935461759567 | 14.81%

Iteración 17 - (20, 4, 0.5, 0.9, 0.05). Best fitness: 0.8213399648666382. Average fitness: 0.7713399529457092 | 15.74%

Iteración 18 - (20, 4, 0.5, 0.9, 0.1). Best fitness: 0.8294044733047485. Average fitness: 0.7760545954108238 | 16.67%

Iteración 19 - (20, 4, 0.5, 0.95, 0.05). Best fitness: 0.8238213658332825. Average fitness: 0.7848014861345292 | 17.59

Iteración 20 - (20, 4, 0.5, 0.95, 0.1). Best fitness: 0.826302707195282. Average fitness: 0.8 | 18.52%

Iteración 21 - (20, 4, 0.6, 0.9, 0.05). Best fitness: 0.8213399648666382. Average fitness: 0.8098325073719025 | 19.44%

Iteración 22 - (20, 4, 0.6, 0.9, 0.1). Best fitness: 0.8306451439857483. Average fitness: 0.8045595556497573 | 20.37%

Iteración 23 - (20, 4, 0.6, 0.95, 0.05). Best fitness: 0.8250620365142822. Average fitness: 0.8039081931114197 | 21.3%

Iteración 24 - (20, 4, 0.6, 0.95, 0.1). Best fitness: 0.8232010006904602. Average fitness: 0.7938895791769027 | 22.22%

**Iteración 25** - (20, 5, 0.4, 0.9, 0.05). Best fitness: 0.8294044733047485. **Average fitness: 0.8138027280569077** | 23.15%

Iteración 26 - (20, 5, 0.4, 0.9, 0.1). Best fitness: 0.8349875807762146. Average fitness: 0.772146400809288 | 24.07%

Iteración 27 - (20, 5, 0.4, 0.95, 0.05). Best fitness: 0.8275434374809265. Average fitness: 0.7842741921544075 | 25.0%

Iteración 28 - (20, 5, 0.4, 0.95, 0.1). Best fitness: 0.82444167137146. Average fitness: 0.7545595541596413 | 25.93%

Iteración 29 - (20, 5, 0.5, 0.9, 0.05). Best fitness: 0.82444167137146. Average fitness: 0.7841191023588181 | 26.85%

Iteración 30 - (20, 5, 0.5, 0.9, 0.1). Best fitness: 0.8176178932189941. Average fitness: 0.7774503782391549 | 27.78%

Iteración 31 - (20, 5, 0.5, 0.95, 0.05). Best fitness: 0.82444167137146. Average fitness: 0.7976736932992935 | 28.7%

Iteración 32 - (20, 5, 0.5, 0.95, 0.1). Best fitness: 0.8238213658332825. Average fitness: 0.7989764302968979 | 29.63%

Iteración 33 - (20, 5, 0.6, 0.9, 0.05). Best fitness: 0.8250620365142822. Average fitness: 0.7778225779533386 | 30.56%

Iteración 34 - (20, 5, 0.6, 0.9, 0.1). Best fitness: 0.8287841081619263. Average fitness: 0.7989143908023835 | 31.48%

Iteración 35 - (20, 5, 0.6, 0.95, 0.05). Best fitness: 0.8269230723381042. Average fitness: 0.7978908210992813 | 32.41%

Iteración 36 - (20, 5, 0.6, 0.95, 0.1). Best fitness: 0.8238213658332825. Average fitness: 0.7547146439552307 | 33.33%

Iteración 37 - (30, 3, 0.4, 0.9, 0.05). Best fitness: 0.8300248384475708. Average fitness: 0.8053763469060262 | 34.26%

Iteración 38 - (30, 3, 0.4, 0.9, 0.1). Best fitness: 0.8182381987571716. Average fitness: 0.7621381292740504 | 35.19%

Iteración 39 - (30, 3, 0.4, 0.95, 0.05). Best fitness: 0.82444167137146. Average fitness: 0.8026054581006368 | 36.11%

Iteración 40 - (30, 3, 0.4, 0.95, 0.1). Best fitness: 0.8300248384475708. Average fitness: 0.8058105885982514 | 37.04%

Iteración 41 - (30, 3, 0.5, 0.9, 0.05). Best fitness: 0.8275434374809265. Average fitness: 0.8031017363071442 | 37.96%

Iteración 42 - (30, 3, 0.5, 0.9, 0.1). Best fitness: 0.8256824016571045. Average fitness: 0.8077336609363556 | 38.89%

Iteración 43 - (30, 3, 0.5, 0.95, 0.05). Best fitness: 0.8238213658332825. Average fitness: 0.8023986756801605 | 39.81%

Iteración 44 - (30, 3, 0.5, 0.95, 0.1). Best fitness: 0.8250620365142822. Average fitness: 0.8008891681830088 | 40.74%

Iteración 45 - (30, 3, 0.6, 0.9, 0.05). Best fitness: 0.8269230723381042. Average fitness: 0.7789495458205541 | 41.67%

Iteración 46 - (30, 3, 0.6, 0.9, 0.1). Best fitness: 0.8225806355476379. Average fitness: 0.7801075279712677 | 42.59%

Iteración 47 - (30, 3, 0.6, 0.95, 0.05). Best fitness: 0.8225806355476379. Average fitness: 0.8025641063849132 | 43.52%

Iteración 48 - (30, 3, 0.6, 0.95, 0.1). Best fitness: 0.826302707195282. Average fitness: 0.8049214243888855 | 44.44%

Iteración 49 - (30, 4, 0.4, 0.9, 0.05). Best fitness: 0.8219602704048157. Average fitness: 0.7878618667523066 | 45.37%

Iteración 50 - (30, 4, 0.4, 0.9, 0.1). Best fitness: 0.8294044733047485. Average fitness: 0.7913151333729426 | 46.3%

Iteración 51 - (30, 4, 0.4, 0.95, 0.05). Best fitness: 0.8256824016571045. Average fitness: 0.8056038081645965 | 47.22%

Iteración 52 - (30, 4, 0.4, 0.95, 0.1). Best fitness: 0.8238213658332825. Average fitness: 0.8099048773447672 | 48.15%

Iteración 53 - (30, 4, 0.5, 0.9, 0.05). Best fitness: 0.826302707195282. Average fitness: 0.787158806125323 | 49.07%

Iteración 54 - (30, 4, 0.5, 0.9, 0.1). Best fitness: 0.8194789290428162. Average fitness: 0.8034532646338145 | 50.0%

Iteración 55 - (30, 4, 0.5, 0.95, 0.05). Best fitness: 0.8256824016571045. Average fitness: 0.7846980979045232 | 50.93%

Iteración 56 - (30, 4, 0.5, 0.95, 0.1). Best fitness: 0.8256824016571045. Average fitness: 0.7972704688707988 | 51.85%

Iteración 57 - (30, 4, 0.6, 0.9, 0.05). Best fitness: 0.8287841081619263. Average fitness: 0.8064102590084076 | 52.78%

Iteración 58 - (30, 4, 0.6, 0.9, 0.1). Best fitness: 0.8306451439857483. Average fitness: 0.807051283121109 | 53.7%

Iteración 59 - (30, 4, 0.6, 0.95, 0.05). Best fitness: 0.828163743019104. Average fitness: 0.80746484597524 | 54.63%

Iteración 60 - (30, 4, 0.6, 0.95, 0.1). Best fitness: 0.8250620365142822. Average fitness: 0.8050041357676189 | 55.56%

Iteración 61 - (30, 5, 0.4, 0.9, 0.05). Best fitness: 0.8238213658332825. Average fitness: 0.8060794035593669 | 56.48%

Iteración 62 - (30, 5, 0.4, 0.9, 0.1). Best fitness: 0.8238213658332825. Average fitness: 0.789433420697848 | 57.41%

Iteración 63 - (30, 5, 0.4, 0.95, 0.05). Best fitness: 0.8300248384475708. Average fitness: 0.7562034775813421 | 58.33%

Iteración 64 - (30, 5, 0.4, 0.95, 0.1). Best fitness: 0.8300248384475708. Average fitness: 0.8055417736371359 | 59.26%

Iteración 65 - (30, 5, 0.5, 0.9, 0.05). Best fitness: 0.826302707195282. Average fitness: 0.7812034726142884 | 60.19%

Iteración 66 - (30, 5, 0.5, 0.9, 0.1). Best fitness: 0.8269230723381042. Average fitness: 0.8136269648869833 | 61.11%

Iteración 67 - (30, 5, 0.5, 0.95, 0.05). Best fitness: 0.8213399648666382. Average fitness: 0.7843052128950755 | 62.04%

Iteración 68 - (30, 5, 0.5, 0.95, 0.1). Best fitness: 0.8256824016571045. Average fitness: 0.7700992514689763 | 62.96%

Iteración 69 - (30, 5, 0.6, 0.9, 0.05). Best fitness: 0.8287841081619263. Average fitness: 0.7899296909570694 | 63.89%

Iteración 70 - (30, 5, 0.6, 0.9, 0.1). Best fitness: 0.828163743019104. Average fitness: 0.812758469581604 | 64.81%

Iteración 71 - (30, 5, 0.6, 0.95, 0.05). Best fitness: 0.8238213658332825. Average fitness: 0.8045078555742899 | 65.74%

Iteración 72 - (30, 5, 0.6, 0.95, 0.1). Best fitness: 0.8275434374809265. Average fitness: 0.7880893329779307 | 66.67%

Iteración 73 - (40, 3, 0.4, 0.9, 0.05). Best fitness: 0.8213399648666382. Average fitness: 0.792493799328804 | 67.59%

Iteración 74 - (40, 3, 0.4, 0.9, 0.1). Best fitness: 0.8287841081619263. Average fitness: 0.7989919364452363 | 68.52%

Iteración 75 - (40, 3, 0.4, 0.95, 0.05). Best fitness: 0.8287841081619263. Average fitness: 0.8061879679560662 | 69.44%

Iteración 76 - (40, 3, 0.4, 0.95, 0.1). Best fitness: 0.8250620365142822. Average fitness: 0.796246899664402 | 70.37%

Iteración 77 - (40, 3, 0.5, 0.9, 0.05). Best fitness: 0.8207195997238159. Average fitness: 0.7947735771536827 | 71.3%

Iteración 78 - (40, 3, 0.5, 0.9, 0.1). Best fitness: 0.8238213658332825. Average fitness: 0.7777140155434609 | 72.22%

Iteración 79 - (40, 3, 0.5, 0.95, 0.05). Best fitness: 0.8256824016571045. Average fitness: 0.8029156401753426 | 73.15%

Iteración 80 - (40, 3, 0.5, 0.95, 0.1). Best fitness: 0.8238213658332825. Average fitness: 0.7973325096070767 | 74.07%

Iteración 81 - (40, 3, 0.6, 0.9, 0.05). Best fitness: 0.8256824016571045. Average fitness: 0.7796991318464279 | 75.0%

Iteración 82 - (40, 3, 0.6, 0.9, 0.1). Best fitness: 0.828163743019104. Average fitness: 0.8053660020232201 | 75.93%

Iteración 83 - (40, 3, 0.6, 0.95, 0.05). Best fitness: 0.8275434374809265. Average fitness: 0.8035204723477364 | 76.85%

Iteración 84 - (40, 3, 0.6, 0.95, 0.1). Best fitness: 0.8287841081619263. Average fitness: 0.7950372204184533 | 77.78%

Iteración 85 - (40, 4, 0.4, 0.9, 0.05). Best fitness: 0.826302707195282. Average fitness: 0.8037375956773758 | 78.7%

Iteración 86 - (40, 4, 0.4, 0.9, 0.1). Best fitness: 0.8325061798095703. Average fitness: 0.7692772977054119 | 79.63%

Iteración 87 - (40, 4, 0.4, 0.95, 0.05). Best fitness: 0.8356079459190369. Average fitness: 0.8101581871509552 | 80.56%

Iteración 88 - (40, 4, 0.4, 0.95, 0.1). Best fitness: 0.8343672752380371. Average fitness: 0.7899193540215492 | 81.48%

Iteración 89 - (40, 4, 0.5, 0.9, 0.05). Best fitness: 0.8287841081619263. Average fitness: 0.8074751868844032 | 82.41%

Iteración 90 - (40, 4, 0.5, 0.9, 0.1). Best fitness: 0.828163743019104. Average fitness: 0.8077698513865471 | 83.33%

Iteración 91 - (40, 4, 0.5, 0.95, 0.05). Best fitness: 0.8343672752380371. Average fitness: 0.8084677428007125 | 84.26%

Iteración 92 - (40, 4, 0.5, 0.95, 0.1). Best fitness: 0.8343672752380371. Average fitness: 0.8067462757229805 | 85.19%

Iteración 93 - (40, 4, 0.6, 0.9, 0.05). Best fitness: 0.8325061798095703. Average fitness: 0.7918734446167945 | 86.11%

Iteración 94 - (40, 4, 0.6, 0.9, 0.1). Best fitness: 0.8300248384475708. Average fitness: 0.7995347425341606 | 87.04%

Iteración 95 - (40, 4, 0.6, 0.95, 0.05). Best fitness: 0.82444167137146. Average fitness: 0.8066532239317894 | 87.96%

Iteración 96 - (40, 4, 0.6, 0.95, 0.1). Best fitness: 0.82444167137146. Average fitness: 0.8002016052603722 | 88.89%

Iteración 97 - (40, 5, 0.4, 0.9, 0.05). Best fitness: 0.8269230723381042. Average fitness: 0.7919509924948216 | 89.81%

Iteración 98 - (40, 5, 0.4, 0.9, 0.1). Best fitness: 0.8312655091285706. Average fitness: 0.7894696012139321 | 90.74%

Iteración 99 - (40, 5, 0.4, 0.95, 0.05). Best fitness: 0.8356079459190369. Average fitness: 0.7771867252886295 | 91.67%

Iteración 100 - (40, 5, 0.4, 0.95, 0.1). Best fitness: 0.8256824016571045. Average fitness: 0.7918424315750598 | 92.59%

Iteración 101 - (40, 5, 0.5, 0.9, 0.05). Best fitness: 0.8337469100952148. Average fitness: 0.8076457872986793 | 93.52%

**Iteración 102 - (40, 5, 0.5, 0.9, 0.1). Best fitness: 0.8368486166000366**. Average fitness: 0.7563895814120769 | 94.44%

Iteración 103 - (40, 5, 0.5, 0.95, 0.05). Best fitness: 0.826302707195282. Average fitness: 0.808374685049057 | 95.37%

Iteración 104 - (40, 5, 0.5, 0.95, 0.1). Best fitness: 0.8294044733047485. Average fitness: 0.8068083167076111 | 96.3%

Iteración 105 - (40, 5, 0.6, 0.9, 0.05). Best fitness: 0.8349875807762146. Average fitness: 0.7921991296112537 | 97.22%

Iteración 106 - (40, 5, 0.6, 0.9, 0.1). Best fitness: 0.8287841081619263. Average fitness: 0.8099875941872596 | 98.15%

Iteración 107 - (40, 5, 0.6, 0.95, 0.05). Best fitness: 0.82444167137146. Average fitness: 0.7934553302824497 | 99.07%

Iteración 108 - (40, 5, 0.6, 0.95, 0.1). Best fitness: 0.828163743019104. Average fitness: 0.8093827560544014 | 100.0%

**python Sincrono\_TFM\_California.py**

Iteración 1 - (20, 3, 0.4, 0.9, 0.05). Best fitness: 0.2280140370130539. Average fitness: 0.2373398497700691 | 0.93%

Iteración 2 - (20, 3, 0.4, 0.9, 0.1). Best fitness: 0.22895961999893188. Average fitness: 0.24011549949645997 | 1.85%

Iteración 3 - (20, 3, 0.4, 0.95, 0.05). Best fitness: 0.2284223884344101. Average fitness: 0.2400001220405102 | 2.78%

Iteración 4 - (20, 3, 0.4, 0.95, 0.1). Best fitness: 0.22704079747200012. Average fitness: 0.25026545226573943 | 3.7%

**Iteración 5 - (20, 3, 0.5, 0.9, 0.05).** **Best fitness: 0.22460483014583588.** Average fitness: 0.2473740302026272 | 4.63%

Iteración 6 - (20, 3, 0.5, 0.9, 0.1). Best fitness: 0.2278953641653061. Average fitness: 0.24218794107437133 | 5.56%

Iteración 7 - (20, 3, 0.5, 0.95, 0.05). Best fitness: 0.22776424884796143. Average fitness: 0.23465541303157805 | 6.48%

Iteración 8 - (20, 3, 0.5, 0.95, 0.1). Best fitness: 0.22791902720928192. Average fitness: 0.23963717147707939 | 7.41%

Iteración 9 - (20, 3, 0.6, 0.9, 0.05). Best fitness: 0.22748824954032898. Average fitness: 0.24999299570918082 | 8.33%

Iteración 10 - (20, 3, 0.6, 0.9, 0.1). Best fitness: 0.2277902215719223. Average fitness: 0.2556848615407944 | 9.26%

Iteración 11 - (20, 3, 0.6, 0.95, 0.05). Best fitness: 0.22834622859954834. Average fitness: 0.24796143919229507 | 10.19%

Iteración 12 - (20, 3, 0.6, 0.95, 0.1). Best fitness: 0.22851641476154327. Average fitness: 0.24505126625299453 | 11.11%

Iteración 13 - (20, 4, 0.4, 0.9, 0.05). Best fitness: 0.22711098194122314. Average fitness: 0.2366430550813675 | 12.04%

Iteración 14 - (20, 4, 0.4, 0.9, 0.1). Best fitness: 0.227794349193573. Average fitness: 0.23723816126585007 | 12.96%

Iteración 15 - (20, 4, 0.4, 0.95, 0.05). Best fitness: 0.22859913110733032. Average fitness: 0.24058981388807296 | 13.89%

Iteración 16 - (20, 4, 0.4, 0.95, 0.1). Best fitness: 0.22848571836948395. Average fitness: 0.240061616897583 | 14.81%

Iteración 17 - (20, 4, 0.5, 0.9, 0.05). Best fitness: 0.22755461931228638. Average fitness: 0.23973069414496423 | 15.74%

Iteración 18 - (20, 4, 0.5, 0.9, 0.1). Best fitness: 0.22827768325805664. Average fitness: 0.2448209822177887 | 16.67%

Iteración 19 - (20, 4, 0.5, 0.95, 0.05). Best fitness: 0.22749054431915283. Average fitness: 0.242263513058424 | 17.59%

Iteración 20 - (20, 4, 0.5, 0.95, 0.1). Best fitness: 0.22767797112464905. Average fitness: 0.24237435087561607 | 18.52%

Iteración 21 - (20, 4, 0.6, 0.9, 0.05). Best fitness: 0.2283334732055664. Average fitness: 0.23464606553316117 | 19.44%

Iteración 22 - (20, 4, 0.6, 0.9, 0.1). Best fitness: 0.22664637863636017. Average fitness: 0.250233044475317 | 20.37%

Iteración 23 - (20, 4, 0.6, 0.95, 0.05). Best fitness: 0.22827817499637604. Average fitness: 0.24242297783493996 | 21.3%

Iteración 24 - (20, 4, 0.6, 0.95, 0.1). Best fitness: 0.22667290270328522. Average fitness: 0.2500359080731869 | 22.22%

Iteración 25 - (20, 5, 0.4, 0.9, 0.05). Best fitness: 0.22789008915424347. Average fitness: 0.23968357741832733 | 23.15%

Iteración 26 - (20, 5, 0.4, 0.9, 0.1). Best fitness: 0.22719961404800415. Average fitness: 0.24205229952931404 | 24.07%

Iteración 27 - (20, 5, 0.4, 0.95, 0.05). Best fitness: 0.22788479924201965. Average fitness: 0.24477286860346795 | 25.0%

Iteración 28 - (20, 5, 0.4, 0.95, 0.1). Best fitness: 0.2279372662305832. Average fitness: 0.23977021798491477 | 25.93%

Iteración 29 - (20, 5, 0.5, 0.9, 0.05). Best fitness: 0.22806181013584137. Average fitness: 0.24970230609178543 | 26.85%

Iteración 30 - (20, 5, 0.5, 0.9, 0.1). Best fitness: 0.2273547649383545. Average fitness: 0.24186260774731635 | 27.78%

Iteración 31 - (20, 5, 0.5, 0.95, 0.05). Best fitness: 0.22727574408054352. Average fitness: 0.24460090845823287 | 28.7%

Iteración 32 - (20, 5, 0.5, 0.95, 0.1). Best fitness: 0.22756102681159973. Average fitness: 0.24448303431272506 | 29.63%

Iteración 33 - (20, 5, 0.6, 0.9, 0.05). Best fitness: 0.22782255709171295. Average fitness: 0.2500985816121101 | 30.56%

Iteración 34 - (20, 5, 0.6, 0.9, 0.1). Best fitness: 0.2273397445678711. Average fitness: 0.25290078669786453 | 31.48%

Iteración 35 - (20, 5, 0.6, 0.95, 0.05). Best fitness: 0.22829928994178772. Average fitness: 0.24474109560251237 | 32.41%

Iteración 36 - (20, 5, 0.6, 0.95, 0.1). Best fitness: 0.22666440904140472. Average fitness: 0.24961263313889503 | 33.33%

Iteración 37 - (30, 3, 0.4, 0.9, 0.05). Best fitness: 0.22773250937461853. Average fitness: 0.2402738571166992 | 34.26%

Iteración 38 - (30, 3, 0.4, 0.9, 0.1). Best fitness: 0.22788704931735992. Average fitness: 0.24014870723088583 | 35.19%

Iteración 39 - (30, 3, 0.4, 0.95, 0.05). Best fitness: 0.22788867354393005. Average fitness: 0.2415434216459592 | 36.11%

Iteración 40 - (30, 3, 0.4, 0.95, 0.1). Best fitness: 0.22828176617622375. Average fitness: 0.2385361577073733 | 37.04%

Iteración 41 - (30, 3, 0.5, 0.9, 0.05). Best fitness: 0.22822193801403046. Average fitness: 0.24340732246637345 | 37.96%

Iteración 42 - (30, 3, 0.5, 0.9, 0.1). Best fitness: 0.22794923186302185. Average fitness: 0.2383110816280047 | 38.89%

Iteración 43 - (30, 3, 0.5, 0.95, 0.05). Best fitness: 0.22804909944534302. Average fitness: 0.2396918922662735 | 39.81%

Iteración 44 - (30, 3, 0.5, 0.95, 0.1). Best fitness: 0.2273331880569458. Average fitness: 0.246455288430055 | 40.74%

Iteración 45 - (30, 3, 0.6, 0.9, 0.05). Best fitness: 0.2280384600162506. Average fitness: 0.24502711246411005 | 41.67%

Iteración 46 - (30, 3, 0.6, 0.9, 0.1). Best fitness: 0.22788485884666443. Average fitness: 0.24682074437538784 | 42.59%

Iteración 47 - (30, 3, 0.6, 0.95, 0.05). Best fitness: 0.22830891609191895. Average fitness: 0.25017329553763074 | 43.52%

Iteración 48 - (30, 3, 0.6, 0.95, 0.1). Best fitness: 0.22663715481758118. Average fitness: 0.248198372622331 | 44.44%

Iteración 49 - (30, 4, 0.4, 0.9, 0.05). Best fitness: 0.22797450423240662. Average fitness: 0.24316337009270986 | 45.37%

Iteración 50 - (30, 4, 0.4, 0.9, 0.1). Best fitness: 0.22827331721782684. Average fitness: 0.2418847292661667 | 46.3%

Iteración 51 - (30, 4, 0.4, 0.95, 0.05). Best fitness: 0.2273971289396286. Average fitness: 0.24477778971195222 | 47.22%

Iteración 52 - (30, 4, 0.4, 0.95, 0.1). Best fitness: 0.22777508199214935. Average fitness: 0.243162036438783 | 48.15%

Iteración 53 - (30, 4, 0.5, 0.9, 0.05). Best fitness: 0.22808600962162018. Average fitness: 0.2362462212642034 | 49.07%

Iteración 54 - (30, 4, 0.5, 0.9, 0.1). Best fitness: 0.22579531371593475. Average fitness: 0.24433516313632328 | 50.0%

Iteración 55 - (30, 4, 0.5, 0.95, 0.05). Best fitness: 0.22793415188789368. Average fitness: 0.2379215543468793 | 50.93%

Iteración 56 - (30, 4, 0.5, 0.95, 0.1). Best fitness: 0.2277424931526184. Average fitness: 0.25026678492625554 | 51.85%

Iteración 57 - (30, 4, 0.6, 0.9, 0.05). Best fitness: 0.2280770242214203. Average fitness: 0.238457324107488 | 52.78%

Iteración 58 - (30, 4, 0.6, 0.9, 0.1). Best fitness: 0.2277078628540039. Average fitness: 0.24815650681654614 | 53.7%

Iteración 59 - (30, 4, 0.6, 0.95, 0.05). Best fitness: 0.22781352698802948. Average fitness: 0.24421760390202205 | 54.63%

Iteración 60 - (30, 4, 0.6, 0.95, 0.1). Best fitness: 0.22819212079048157. Average fitness: 0.24158407300710677 | 55.56%

Iteración 61 - (30, 5, 0.4, 0.9, 0.05). Best fitness: 0.22814320027828217. Average fitness: 0.23910506616036098 | 56.48%

Iteración 62 - (30, 5, 0.4, 0.9, 0.1). Best fitness: 0.22687765955924988. Average fitness: 0.24139273713032405 | 57.41%

Iteración 63 - (30, 5, 0.4, 0.95, 0.05). Best fitness: 0.22781339287757874. Average fitness: 0.2411122833689054 | 58.33%

Iteración 64 - (30, 5, 0.4, 0.95, 0.1). Best fitness: 0.22811415791511536. Average fitness: 0.24500554303328195 | 59.26%

Iteración 65 - (30, 5, 0.5, 0.9, 0.05). Best fitness: 0.22741959989070892. Average fitness: 0.2427813415726026 | 60.19%

Iteración 66 - (30, 5, 0.5, 0.9, 0.1). Best fitness: 0.2279205024242401. Average fitness: 0.2460969179868698 | 61.11%

Iteración 67 - (30, 5, 0.5, 0.95, 0.05). Best fitness: 0.22771278023719788. Average fitness: 0.2429079165061315 | 62.04%

Iteración 68 - (30, 5, 0.5, 0.95, 0.1). Best fitness: 0.2277529239654541. Average fitness: 0.24140592018763224 | 62.96%

Iteración 69 - (30, 5, 0.6, 0.9, 0.05). Best fitness: 0.22752834856510162. Average fitness: 0.25203468998273215 | 63.89%

Iteración 70 - (30, 5, 0.6, 0.9, 0.1). Best fitness: 0.22533008456230164. Average fitness: 0.24764776577552158 | 64.81%

Iteración 71 - (30, 5, 0.6, 0.95, 0.05). Best fitness: 0.22590512037277222. Average fitness: 0.24809547066688536 | 65.74%

Iteración 72 - (30, 5, 0.6, 0.95, 0.1). Best fitness: 0.2268030047416687. Average fitness: 0.24979735066493353 | 66.67%

Iteración 73 - (40, 3, 0.4, 0.9, 0.05). Best fitness: 0.22811664640903473. Average fitness: 0.24105886332690715 | 67.59%

Iteración 74 - (40, 3, 0.4, 0.9, 0.1). Best fitness: 0.22739483416080475. Average fitness: 0.24147390499711036 | 68.52%

Iteración 75 - (40, 3, 0.4, 0.95, 0.05). Best fitness: 0.22751663625240326. Average fitness: 0.24135240241885186 | 69.44%

Iteración 76 - (40, 3, 0.4, 0.95, 0.1). Best fitness: 0.22773008048534393. Average fitness: 0.23969312384724617 | 70.37%

Iteración 77 - (40, 3, 0.5, 0.9, 0.05). Best fitness: 0.22715167701244354. Average fitness: 0.24249304533004762 | 71.3%

Iteración 78 - (40, 3, 0.5, 0.9, 0.1). Best fitness: 0.22735650837421417. Average fitness: 0.24394797049462796 | 72.22%

Iteración 79 - (40, 3, 0.5, 0.95, 0.05). Best fitness: 0.22802670300006866. Average fitness: 0.24875145852565766 | 73.15%

Iteración 80 - (40, 3, 0.5, 0.95, 0.1). Best fitness: 0.2279236763715744. Average fitness: 0.2425480056554079 | 74.07%

Iteración 81 - (40, 3, 0.6, 0.9, 0.05). Best fitness: 0.2278798371553421. Average fitness: 0.24112239927053453 | 75.0%

Iteración 82 - (40, 3, 0.6, 0.9, 0.1). Best fitness: 0.22806352376937866. Average fitness: 0.24736337028443814 | 75.93%

Iteración 83 - (40, 3, 0.6, 0.95, 0.05). Best fitness: 0.22812829911708832. Average fitness: 0.2500552013516426 | 76.85%

Iteración 84 - (40, 3, 0.6, 0.95, 0.1). Best fitness: 0.22651371359825134. Average fitness: 0.25128672905266286 | 77.78%

Iteración 85 - (40, 4, 0.4, 0.9, 0.05). Best fitness: 0.22789691388607025. Average fitness: 0.24096761047840118 | 78.7%

**Iteración 86 - (40, 4, 0.4, 0.9, 0.1**). Best fitness: 0.22753874957561493. **Average fitness: 0.23345246128737926** | 79.63%

Iteración 87 - (40, 4, 0.4, 0.95, 0.05). Best fitness: 0.2275380790233612. Average fitness: 0.24058964997529983 | 80.56%

Iteración 88 - (40, 4, 0.4, 0.95, 0.1). Best fitness: 0.2277199774980545. Average fitness: 0.2434484951198101 | 81.48%

Iteración 89 - (40, 4, 0.5, 0.9, 0.05). Best fitness: 0.2268812507390976. Average fitness: 0.24225970208644867 | 82.41%

Iteración 90 - (40, 4, 0.5, 0.9, 0.1). Best fitness: 0.22781477868556976. Average fitness: 0.24072378799319266 | 83.33%

Iteración 91 - (40, 4, 0.5, 0.95, 0.05). Best fitness: 0.22727113962173462. Average fitness: 0.23943760059773922 | 84.26%

Iteración 92 - (40, 4, 0.5, 0.95, 0.1). Best fitness: 0.22664262354373932. Average fitness: 0.24481719210743905 | 85.19%

Iteración 93 - (40, 4, 0.6, 0.9, 0.05). Best fitness: 0.2271689772605896. Average fitness: 0.2524616777896881 | 86.11%

Iteración 94 - (40, 4, 0.6, 0.9, 0.1). Best fitness: 0.22721253335475922. Average fitness: 0.2472650811076164 | 87.04%

Iteración 95 - (40, 4, 0.6, 0.95, 0.05). Best fitness: 0.22551091015338898. Average fitness: 0.25507188998162744 | 87.96%

Iteración 96 - (40, 4, 0.6, 0.95, 0.1). Best fitness: 0.22604969143867493. Average fitness: 0.24318420141935349 | 88.89%

Iteración 97 - (40, 5, 0.4, 0.9, 0.05). Best fitness: 0.22778154909610748. Average fitness: 0.24073158465325833 | 89.81%

Iteración 98 - (40, 5, 0.4, 0.9, 0.1). Best fitness: 0.22633865475654602. Average fitness: 0.24166237898170947 | 90.74%

Iteración 99 - (40, 5, 0.4, 0.95, 0.05). Best fitness: 0.2271275371313095. Average fitness: 0.23810541220009326 | 91.67%

Iteración 100 - (40, 5, 0.4, 0.95, 0.1). Best fitness: 0.2272830307483673. Average fitness: 0.24258605502545832 | 92.59%

Iteración 101 - (40, 5, 0.5, 0.9, 0.05). Best fitness: 0.22784708440303802. Average fitness: 0.24288208819925786 | 93.52%

Iteración 102 - (40, 5, 0.5, 0.9, 0.1). Best fitness: 0.2269946038722992. Average fitness: 0.2459332078695297 | 94.44%

Iteración 103 - (40, 5, 0.5, 0.95, 0.05). Best fitness: 0.2267490029335022. Average fitness: 0.24452149644494056 | 95.37%

Iteración 104 - (40, 5, 0.5, 0.95, 0.1). Best fitness: 0.2261657863855362. Average fitness: 0.24556956365704535 | 96.3%

Iteración 105 - (40, 5, 0.6, 0.9, 0.05). Best fitness: 0.22666330635547638. Average fitness: 0.2513162538409233 | 97.22%

Iteración 106 - (40, 5, 0.6, 0.9, 0.1). Best fitness: 0.22737184166908264. Average fitness: 0.25137277916073797 | 98.15%

Iteración 107 - (40, 5, 0.6, 0.95, 0.05). Best fitness: 0.22709070146083832. Average fitness: 0.2497228853404522 | 99.07%

Iteración 108 - (40, 5, 0.6, 0.95, 0.1). Best fitness: 0.22496914863586426. Average fitness: 0.2486148476600647 | 100.0%

**python Sincrono\_TFM\_FIFA.py**

Iteración 1 - (20, 3, 0.4, 0.9, 0.05). Best fitness: 0.8232010006904602. Average fitness: 0.8056141495704651 | 0.93%

Iteración 2 - (20, 3, 0.4, 0.9, 0.1). Best fitness: 0.8256824016571045. Average fitness: 0.8098945379257202 | 1.85%

Iteración 3 - (20, 3, 0.4, 0.95, 0.05). Best fitness: 0.8312655091285706. Average fitness: 0.8188895732164383 | 2.78%

Iteración 4 - (20, 3, 0.4, 0.95, 0.1). Best fitness: 0.826302707195282. Average fitness: 0.6999069437384605 | 3.7%

Iteración 5 - (20, 3, 0.5, 0.9, 0.05). Best fitness: 0.8287841081619263. Average fitness: 0.8172766715288162 | 4.63%

Iteración 6 - (20, 3, 0.5, 0.9, 0.1). Best fitness: 0.8219602704048157. Average fitness: 0.7630272924900054 | 5.56%

Iteración 7 - (20, 3, 0.5, 0.95, 0.05). Best fitness: 0.8269230723381042. Average fitness: 0.7773573189973831 | 6.48%

Iteración 8 - (20, 3, 0.5, 0.95, 0.1). Best fitness: 0.8250620365142822. Average fitness: 0.8136476397514343 | 7.41%

Iteración 9 - (20, 3, 0.6, 0.9, 0.05). Best fitness: 0.8294044733047485. Average fitness: 0.7610421866178513 | 8.33%

Iteración 10 - (20, 3, 0.6, 0.9, 0.1). Best fitness: 0.8300248384475708. Average fitness: 0.8162531048059464 | 9.26%

Iteración 11 - (20, 3, 0.6, 0.95, 0.05). Best fitness: 0.8269230723381042. Average fitness: 0.7842741951346397 | 10.19%

Iteración 12 - (20, 3, 0.6, 0.95, 0.1). Best fitness: 0.8250620365142822. Average fitness: 0.778070718050003 | 11.11%

Iteración 13 - (20, 4, 0.4, 0.9, 0.05). Best fitness: 0.8287841081619263. Average fitness: 0.8167493790388107 | 12.04%

Iteración 14 - (20, 4, 0.4, 0.9, 0.1). Best fitness: 0.82444167137146. Average fitness: 0.7821650132536888 | 12.96%

Iteración 15 - (20, 4, 0.4, 0.95, 0.05). Best fitness: 0.826302707195282. Average fitness: 0.8111352294683456 | 13.89%

Iteración 16 - (20, 4, 0.4, 0.95, 0.1). Best fitness: 0.8269230723381042. Average fitness: 0.7751861020922661 | 14.81%

Iteración 17 - (20, 4, 0.5, 0.9, 0.05). Best fitness: 0.8306451439857483. Average fitness: 0.7670285299420356 | 15.74%

Iteración 18 - (20, 4, 0.5, 0.9, 0.1). Best fitness: 0.8300248384475708. Average fitness: 0.7863213375210762 | 16.67%

Iteración 19 - (20, 4, 0.5, 0.95, 0.05). Best fitness: 0.8312655091285706. Average fitness: 0.7782258063554763 | 17.59%

Iteración 20 - (20, 4, 0.5, 0.95, 0.1). Best fitness: 0.8287841081619263. Average fitness: 0.8107009887695312 | 18.52%

Iteración 21 - (20, 4, 0.6, 0.9, 0.05). Best fitness: 0.8318858742713928. Average fitness: 0.8077543437480926 | 19.44%

Iteración 22 - (20, 4, 0.6, 0.9, 0.1). Best fitness: 0.82444167137146. Average fitness: 0.8144851118326187 | 20.37%

Iteración 23 - (20, 4, 0.6, 0.95, 0.05). Best fitness: 0.8294044733047485. Average fitness: 0.7873759284615517 | 21.3%

Iteración 24 - (20, 4, 0.6, 0.95, 0.1). Best fitness: 0.8318858742713928. Average fitness: 0.7835918098688126 | 22.22%

Iteración 25 - (20, 5, 0.4, 0.9, 0.05). Best fitness: 0.8275434374809265. Average fitness: 0.8192617863416671 | 23.15%

**Iteración 26 - (20, 5, 0.4, 0.9, 0.1).** Best fitness: 0.8318858742713928. **Average fitness: 0.8241935461759567** | 24.07%

Iteración 27 - (20, 5, 0.4, 0.95, 0.05). Best fitness: 0.826302707195282. Average fitness: 0.8165632724761963 | 25.0%

Iteración 28 - (20, 5, 0.4, 0.95, 0.1). Best fitness: 0.8287841081619263. Average fitness: 0.816997516155243 | 25.93%

Iteración 29 - (20, 5, 0.5, 0.9, 0.05). Best fitness: 0.8275434374809265. Average fitness: 0.7924317553639412 | 26.85%

Iteración 30 - (20, 5, 0.5, 0.9, 0.1). Best fitness: 0.8312655091285706. Average fitness: 0.8168114185333252 | 27.78%

Iteración 31 - (20, 5, 0.5, 0.95, 0.05). Best fitness: 0.8318858742713928. Average fitness: 0.7935483962297439 | 28.7%

Iteración 32 - (20, 5, 0.5, 0.95, 0.1). Best fitness: 0.8312655091285706. Average fitness: 0.8215570688247681 | 29.63%

Iteración 33 - (20, 5, 0.6, 0.9, 0.05). Best fitness: 0.8312655091285706. Average fitness: 0.7140508636832237 | 30.56%

Iteración 34 - (20, 5, 0.6, 0.9, 0.1). Best fitness: 0.8300248384475708. Average fitness: 0.7936724573373795 | 31.48%

Iteración 35 - (20, 5, 0.6, 0.95, 0.05). Best fitness: 0.8362283110618591. Average fitness: 0.815632751584053 | 32.41%

Iteración 36 - (20, 5, 0.6, 0.95, 0.1). Best fitness: 0.8275434374809265. Average fitness: 0.7541873410344124 | 33.33%

Iteración 37 - (30, 3, 0.4, 0.9, 0.05). Best fitness: 0.8207195997238159. Average fitness: 0.8031637708346049 | 34.26%

Iteración 38 - (30, 3, 0.4, 0.9, 0.1). Best fitness: 0.826302707195282. Average fitness: 0.8164185285568237 | 35.19%

Iteración 39 - (30, 3, 0.4, 0.95, 0.05). Best fitness: 0.82444167137146. Average fitness: 0.7734284559885661 | 36.11%

Iteración 40 - (30, 3, 0.4, 0.95, 0.1). Best fitness: 0.8287841081619263. Average fitness: 0.7898056268692016 | 37.04%

Iteración 41 - (30, 3, 0.5, 0.9, 0.05). Best fitness: 0.8356079459190369. Average fitness: 0.8146608730157217 | 37.96%

Iteración 42 - (30, 3, 0.5, 0.9, 0.1). Best fitness: 0.82444167137146. Average fitness: 0.7773159583409627 | 38.89%

Iteración 43 - (30, 3, 0.5, 0.95, 0.05). Best fitness: 0.82444167137146. Average fitness: 0.8074648400147756 | 39.81%

Iteración 44 - (30, 3, 0.5, 0.95, 0.1). Best fitness: 0.82444167137146. Average fitness: 0.7956162105003993 | 40.74%

Iteración 45 - (30, 3, 0.6, 0.9, 0.05). Best fitness: 0.8287841081619263. Average fitness: 0.7958850224812826 | 41.67%

Iteración 46 - (30, 3, 0.6, 0.9, 0.1). Best fitness: 0.8287841081619263. Average fitness: 0.7924110800027847 | 42.59%

Iteración 47 - (30, 3, 0.6, 0.95, 0.05). Best fitness: 0.8331265449523926. Average fitness: 0.8155086855093638 | 43.52%

Iteración 48 - (30, 3, 0.6, 0.95, 0.1). Best fitness: 0.8349875807762146. Average fitness: 0.8104425152142842 | 44.44%

Iteración 49 - (30, 4, 0.4, 0.9, 0.05). Best fitness: 0.82444167137146. Average fitness: 0.8123449166615804 | 45.37%

Iteración 50 - (30, 4, 0.4, 0.9, 0.1). Best fitness: 0.8287841081619263. Average fitness: 0.7772332509358724 | 46.3%

Iteración 51 - (30, 4, 0.4, 0.95, 0.05). Best fitness: 0.8331265449523926. Average fitness: 0.8197477201620738 | 47.22%

Iteración 52 - (30, 4, 0.4, 0.95, 0.1). Best fitness: 0.8232010006904602. Average fitness: 0.7744623690843582 | 48.15%

Iteración 53 - (30, 4, 0.5, 0.9, 0.05). Best fitness: 0.8287841081619263. Average fitness: 0.7914805620908737 | 49.07%

Iteración 54 - (30, 4, 0.5, 0.9, 0.1). Best fitness: 0.8287841081619263. Average fitness: 0.8128825426101685 | 50.0%

Iteración 55 - (30, 4, 0.5, 0.95, 0.05). Best fitness: 0.8325061798095703. Average fitness: 0.7957816372315089 | 50.93%

Iteración 56 - (30, 4, 0.5, 0.95, 0.1). Best fitness: 0.8362283110618591. Average fitness: 0.818858555952708 | 51.85%

Iteración 57 - (30, 4, 0.6, 0.9, 0.05). Best fitness: 0.8318858742713928. Average fitness: 0.774586429198583 | 52.78%

Iteración 58 - (30, 4, 0.6, 0.9, 0.1). Best fitness: 0.8294044733047485. Average fitness: 0.7721877599755923 | 53.7%

Iteración 59 - (30, 4, 0.6, 0.95, 0.05). Best fitness: 0.8318858742713928. Average fitness: 0.8157361427942912 | 54.63%

Iteración 60 - (30, 4, 0.6, 0.95, 0.1). Best fitness: 0.8318858742713928. Average fitness: 0.8138130684693654 | 55.56%

Iteración 61 - (30, 5, 0.4, 0.9, 0.05). Best fitness: 0.8306451439857483. Average fitness: 0.8025020678838094 | 56.48%

Iteración 62 - (30, 5, 0.4, 0.9, 0.1). Best fitness: 0.8294044733047485. Average fitness: 0.7994623641173045 | 57.41%

Iteración 63 - (30, 5, 0.4, 0.95, 0.05). Best fitness: 0.8306451439857483. Average fitness: 0.8198304375012716 | 58.33%

Iteración 64 - (30, 5, 0.4, 0.95, 0.1). Best fitness: 0.8275434374809265. Average fitness: 0.7943134834369023 | 59.26%

Iteración 65 - (30, 5, 0.5, 0.9, 0.05). Best fitness: 0.8325061798095703. Average fitness: 0.816211752096812 | 60.19%

Iteración 66 - (30, 5, 0.5, 0.9, 0.1). Best fitness: 0.8256824016571045. Average fitness: 0.7974565784136455 | 61.11%

Iteración 67 - (30, 5, 0.5, 0.95, 0.05). Best fitness: 0.828163743019104. Average fitness: 0.8004962782065074 | 62.04%

Iteración 68 - (30, 5, 0.5, 0.95, 0.1). Best fitness: 0.8294044733047485. Average fitness: 0.8165012439092 | 62.96%

Iteración 69 - (30, 5, 0.6, 0.9, 0.05). Best fitness: 0.8337469100952148. Average fitness: 0.8162530958652496 | 63.89%

Iteración 70 - (30, 5, 0.6, 0.9, 0.1). Best fitness: 0.8374689817428589. Average fitness: 0.8184243162473043 | 64.81%

Iteración 71 - (30, 5, 0.6, 0.95, 0.05). Best fitness: 0.8331265449523926. Average fitness: 0.7799007376035054 | 65.74%

Iteración 72 - (30, 5, 0.6, 0.95, 0.1). Best fitness: 0.8331265449523926. Average fitness: 0.8182175358136495 | 66.67%

Iteración 73 - (40, 3, 0.4, 0.9, 0.05). Best fitness: 0.8300248384475708. Average fitness: 0.8008374676108361 | 67.59%

Iteración 74 - (40, 3, 0.4, 0.9, 0.1). Best fitness: 0.8368486166000366. Average fitness: 0.79416873306036 | 68.52%

Iteración 75 - (40, 3, 0.4, 0.95, 0.05). Best fitness: 0.8318858742713928. Average fitness: 0.7970843650400639 | 69.44%

Iteración 76 - (40, 3, 0.4, 0.95, 0.1). Best fitness: 0.8294044733047485. Average fitness: 0.8118641510605812 | 70.37%

Iteración 77 - (40, 3, 0.5, 0.9, 0.05). Best fitness: 0.8356079459190369. Average fitness: 0.8182537257671356 | 71.3%

Iteración 78 - (40, 3, 0.5, 0.9, 0.1). Best fitness: 0.8318858742713928. Average fitness: 0.799767368286848 | 72.22%

Iteración 79 - (40, 3, 0.5, 0.95, 0.05). Best fitness: 0.8287841081619263. Average fitness: 0.80338089838624 | 73.15%

Iteración 80 - (40, 3, 0.5, 0.95, 0.1). Best fitness: 0.8275434374809265. Average fitness: 0.8115694805979728 | 74.07%

Iteración 81 - (40, 3, 0.6, 0.9, 0.05). Best fitness: 0.8318858742713928. Average fitness: 0.8162220865488052 | 75.0%

Iteración 82 - (40, 3, 0.6, 0.9, 0.1). Best fitness: 0.8287841081619263. Average fitness: 0.8147177398204803 | 75.93%

Iteración 83 - (40, 3, 0.6, 0.95, 0.05). Best fitness: 0.8294044733047485. Average fitness: 0.8152295336127281 | 76.85%

Iteración 84 - (40, 3, 0.6, 0.95, 0.1). Best fitness: 0.8331265449523926. Average fitness: 0.8011941686272621 | 77.78%

Iteración 85 - (40, 4, 0.4, 0.9, 0.05). Best fitness: 0.8275434374809265. Average fitness: 0.8103598043322563 | 78.7%

Iteración 86 - (40, 4, 0.4, 0.9, 0.1). Best fitness: 0.8287841081619263. Average fitness: 0.8139578148722648 | 79.63%

Iteración 87 - (40, 4, 0.4, 0.95, 0.05). Best fitness: 0.826302707195282. Average fitness: 0.7874534755945206 | 80.56%

Iteración 88 - (40, 4, 0.4, 0.95, 0.1). Best fitness: 0.8318858742713928. Average fitness: 0.7894851095974446 | 81.48%

Iteración 89 - (40, 4, 0.5, 0.9, 0.05). Best fitness: 0.8325061798095703. Average fitness: 0.8198200970888138 | 82.41%

Iteración 90 - (40, 4, 0.5, 0.9, 0.1). Best fitness: 0.8312655091285706. Average fitness: 0.8036135181784629 | 83.33%

Iteración 91 - (40, 4, 0.5, 0.95, 0.05). Best fitness: 0.8312655091285706. Average fitness: 0.802884615212679 | 84.26%

Iteración 92 - (40, 4, 0.5, 0.95, 0.1). Best fitness: 0.8331265449523926. Average fitness: 0.8005427978932858 | 85.19%

Iteración 93 - (40, 4, 0.6, 0.9, 0.05). Best fitness: 0.8325061798095703. Average fitness: 0.7994416892528534 | 86.11%

Iteración 94 - (40, 4, 0.6, 0.9, 0.1). Best fitness: 0.828163743019104. Average fitness: 0.8112903222441673 | 87.04%

Iteración 95 - (40, 4, 0.6, 0.95, 0.05). Best fitness: 0.8349875807762146. Average fitness: 0.8006978943943978 | 87.96%

Iteración 96 - (40, 4, 0.6, 0.95, 0.1). Best fitness: 0.8306451439857483. Average fitness: 0.8158653780817986 | 88.89%

Iteración 97 - (40, 5, 0.4, 0.9, 0.05). Best fitness: 0.8331265449523926. Average fitness: 0.8215725794434547 | 89.81%

Iteración 98 - (40, 5, 0.4, 0.9, 0.1). Best fitness: 0.8287841081619263. Average fitness: 0.8035980127751827 | 90.74%

Iteración 99 - (40, 5, 0.4, 0.95, 0.05). Best fitness: 0.8287841081619263. Average fitness: 0.8165632754564285 | 91.67%

Iteración 100 - (40, 5, 0.4, 0.95, 0.1). Best fitness: 0.8349875807762146. Average fitness: 0.8133995041251183 | 92.59%

Iteración 101 - (40, 5, 0.5, 0.9, 0.05). Best fitness: 0.8306451439857483. Average fitness: 0.7749069474637509 | 93.52%

Iteración 102 - (40, 5, 0.5, 0.9, 0.1). Best fitness: 0.8306451439857483. Average fitness: 0.7871433012187481 | 94.44%

Iteración 103 - (40, 5, 0.5, 0.95, 0.05). Best fitness: 0.8312655091285706. Average fitness: 0.8203163772821427 | 95.37%

Iteración 104 - (40, 5, 0.5, 0.95, 0.1). Best fitness: 0.8331265449523926. Average fitness: 0.7758994929492473 | 96.3%

Iteración 105 - (40, 5, 0.6, 0.9, 0.05). Best fitness: 0.8331265449523926. Average fitness: 0.7735576964914799 | 97.22%

Iteración 106 - (40, 5, 0.6, 0.9, 0.1). Best fitness: 0.8349875807762146. Average fitness: 0.8202233225107193 | 98.15%

Iteración 107 - (40, 5, 0.6, 0.95, 0.05). Best fitness: 0.8331265449523926. Average fitness: 0.8144385859370231 | 99.07%

**Iteración 108 - (40, 5, 0.6, 0.95, 0.1).** **Best fitness: 0.8424317836761475**. Average fitness: 0.8158653825521469 | 100.0%