SBGC–LSTM io gathcr dynamic data.En. Eurygasieri's location in the D–dimensional scarching spacc denoted wih the by the cxpresslon optinization, solution The fommula for Eurygaster >peed Each Eurygaster moves a (51,52, dhflcrent speed as they approach the cxlreme global value. Furthemmore.S, = (s,1, 5,2,.... C TEMPORAL HIERARCHICAL ARCHITECTURE Pollowing LSTM layers, SBGC–LSTM layers receive scnes where AT E of augmcnted node fcatures Rvd,. Three SBGC–LSTM layers are slacked in the pro– posed moxdcl to leam the temporal dynamics and spatial arrangement We creaie a lcmporal hicrarchical design of SBGC–LSTM with average pools in icmporal domains and inspired by spatial pooling o CNNS. Due lemporal hierarchical architecture, input temporal receplive ficlds of top SBGC–LSTM layers become short–term fasteners and are more sensitive to lcmporal dynamics. Morcover. they drastically reduce computing costs while cnhancing periomances [27].Particlc swarm optimization (PSO) and foraging icchniques are used in EOA optimizations, which are modelled afier curygasters: Based on the obseration that curygastcrs use thcir anicnnae to scan their sumoundings, this is truc.Thesc paramcters are initially set to high values, which decrease progressively: as a result, one trics t0 atlain a wide region helore rcducing to obiain a capacity that is reasonable ior Eurygasicr.The mark for the correctly dctecied position is qn. whereas the lefi detccicd position is denoicd by qk. These places include food flavor, which is represenied by the fitness function values /(qn) and /(qn), which were compulcd using the recommended method.The EOA aligorithm's location and speed updating procedure is as follows: atlats 820 where in Eq (14), (A/), is the cxpansion charactcristic of combination i at time t. The main point here is that the lincar portion and LSTM are distnbutcd among several charaeteristics.I) LEARNING SBGC–LSTM AE the cnd, the GF and of time stamp ane convert as resulis of and (owr); for CI phunses, where (ou), (ou),.(ox)a.....Thcrefore, to remove the scale viriation between the two [eatures, an LSTM layer was applicd: EM =fomlconcara, Va) = fmlconcarn –fi–1) (14) the decaying weight coefficicnts.