IMPLEMENTATION OF PSO TO FIND PROJECT DURATION

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PERT FORMULA FOR PROJECT DURATION

- $T = (T_o + 4 T_m + T_p)/6$;
- Where T_o is optimistic time
- T_m is most likely time and
- T_p is pessimistic time.

OBJECTIVE

- TO FIND OPTIMISTIC, PESSIMISTIC AND MOST LIKELY VALUES OF PROJECT DURATION, GIVEN AN ESTIMATED DURATION FOR A PROJECT USING PARTICLE SWARM OPTIMIZATION

- EVERY PARTICLE CONSISTS OF THE THREE TIMES: OPTIMISTIC, PESSIMISTIC AND MOST LIKELY

INITIALIZATION

- INITIALIZE PARTICLES TO RANDOM POSITION VALUES SUCH THAT P(OPTIMISTIC)<P(MOST LIKELY)<P(PESSIMISTIC)

- INITIALIZE RANDOM PARTICLE VELOCITIES

- CALCULATE FITNESS FUNCTION FOR PARTICLE USING PERT FORMULA

- INITIALIZE PBEST OF EVERY PARTICLE TO INITIAL POSITION

- INTIALIZE GBEST TO THE BEST PBEST OF ALL PARTICLES

ITERATION

- ITERATE UNTIL TARGET VALUE REACHED OR END OF MAX_ITERATIONS
- FOR EVERY ITERATION, CALCULATE FITNESS FUNCTION
- IF FITNESS(X) BETTER THAN FITNESS(PBEST), PBEST = X
- ASSIGN GBEST TO BEST PBEST
- UPDATE PARTICLE VELOCITY AND POSITION
- USE JFREECHART TO VISUALIZE MOVEMENT OF PARTICLES
- PRINT IN CONSOLE

SCREENSHOT