

Four Innovative Artificial Intelligence Articles

Satish Gajawada
IIT Roorkee Alumnus
satish.gajawada.iit@gmail.com

Four Unique Artificial Intelligence Algorithms

This article contributes four unique Artificial Intelligence algorithms to Swarm Intelligence which is an active area of research. Cricket Match Runs Algorithm (CMRA), Rice Bags Sales Algorithm (RBSA), English Language Sentence Algorithm (ELSA) and Object Swarm Optimization Algorithm (OSOA) are four novel Swarm Intelligence algorithms designed in this article. CMRA, RBSA and ELSA belongs to Human Swarm Optimization (HSO) field. The Object Swarm Optimization Algorithm (OSOA) does not belong to any particular category of Swarm Intelligence like Particle Swarm Optimization or Human Swarm Optimization but it belongs to Object Swarm Optimization where Objects move in search space. Hence OSOA belongs to Object Swarm Intelligence.

Teacher Brother Sister Father Mother Friend Artificial Intelligence Algorithm (TBSFMFAIA)

Swarm intelligence is an active area of research. A new algorithm titled Teacher Brother Sister Father Mother Friend Artificial Intelligence Algorithm (TBSFMFAIA) is proposed in this article. The proposed TBSFMFAIA Artificial intelligence algorithm belongs to Human Swarm Optimization (HSO) field.

Prabhakar Gajawada Bhagyamma Gajawada Satish Gajawada Artificial Intelligence Algorithm (PGBGSGAIA)

Many Human Swarm Optimization (HSO) algorithms were proposed in literature. These algorithms are based on Humans in general. But every Human is unique. Hence in this paper

a novel algorithm based on 3 Humans Satish Gajawada, Prabhakar Gajawada and Bhagyamma Gajawada has been designed. Satish Gajawada is the son of Prabhakar Gajawada and Bhagyamma Gajawada. A unique algorithm titled Prabhakar Gajawada Bhagyamma Gajawada Satish Gajawada Artificial Intelligence Algorithm (PGBGSGAIA) is proposed in this article.

Kindness Love Satisfaction Peace Excellence Money Happiness Respect Intelligence Health Artificial Intelligence Algorithm (KLSPEMHRIHAIA)

Kindness Love Satisfaction Peace Excellence Money Happiness Respect Intelligence Health Artificial Intelligence Algorithm (KLSPEMHRIHAIA) is the novel and unique algorithm invented in this article. This algorithm belongs to Human Swarm Optimization (HSO) field.

Four Unique Artificial Intelligence Algorithms

Satish Gajawada
IIT Roorkee Alumnus
satish.gajawada.iit@gmail.com

Abstract—This article contributes four unique Artificial Intelligence algorithms to Swarm Intelligence which is an active area of research. Cricket Match Runs Algorithm (CMRA), Rice Bags Sales Algorithm (RBSA), English Language Sentence Algorithm (ELSA) and Object Swarm Optimization Algorithm (OSOA) are four novel Swarm Intelligence algorithms designed in this article. CMRA, RBSA and ELSA belongs to Human Swarm Optimization (HSO) field. The Object Swarm Optimization Algorithm (OSOA) does not belong to any particular category of Swarm Intelligence like Particle Swarm Optimization or Human Swarm Optimization but it belongs to Object Swarm Optimization where Objects move in search space. Hence OSOA belongs to Object Swarm Intelligence.

Keywords—Cricket match, CMRA, Rice Bags, RBSA, English sentence, ELSA, Objects, OSOA, Swarm Intelligence, Object Swarm Intelligence, Human Swarm Optimization, HSO, Artificial Intelligence

I. INTRODUCTION

Articles [1] to [5] show literature related to Swarm Intelligence. Four Artificial Intelligence algorithms are designed in this work. Section 2 shows Cricket Match Runs Algorithm (CMRA). Rice Bags Sales Algorithm (RBSA) is shown in Section 3. Section 4 shows English Language Sentence Algorithm (ELSA). Object Swarm Optimization Algorithm (OSOA) is shown in Section 5. Conclusions are made in Section 6 followed by references at the end.

II. CRICKET MATCH RUNS ALGORITHM

The Runs scored in a cricket match are stored in Cricket_Runs_Scored Array. In line no. 2 the ball number is set to 1. Population of Humans is initialized in line no. 3. In 4th line, Generation counter is set to 1. Line no. 5 identifies Best_Human with best fitness value. In line no. 6 for each Human loop is started. Direction is calculated in lines 7 and 8. Line no. 9 shows position update equation. The Human moves along the Best_Human direction and the magnitude of this movement is Cricket_Runs_Scored[ball] which is nothing but the runs scored in the current ball. The ball is incremented by 1. Line no. 11 ends for each Human loop. The Generation is incremented by 1. This process is continued until termination condition is reached in line no. 13.

Procedure: Cricket Match Runs Algorithm (CMRA)

- 1) Initialize Cricket_Runs_Scored Array
- 2) Set ball = 1
- 3) Initialize Population of Humans
- 4) Set Generation = 1
- 5) Identify Best_Human with best fitness value
- 6) for each Human:
- 7) Direction = Best_Human – Human
- 8) Convert Direction into unit vector
- 9) position = position +

Direction*Cricket_Runs_Scored[ball]

- 10) ball = ball + 1
- 11) end for each Human loop
- 12) Generation = Generation + 1
- 13) Loop until termination condition is reached

III. RICE BAGS SALES ALGORITHM

Probabilities of number of Rice Bags sold to current customer are initialized in first four lines. Population of Humans is initialized and Generation count is set to 1. Best_Human with best fitness value is identified. In line no. 8, for each Human loop is started. Direction of movement is calculated in lines 9 and 10. The position update equation is based on random number generated and probabilities. Human moves along Direction and magnitude of this movement is equal to the number of Rice Bags lifted or sold to customer. This is shown in lines 12 to 19. In line no. 20, for each Human loop is ended. Generation count is incremented by 1. This process is continued until termination condition is reached in line no. 22.

Procedure: Rice Bags Sales Algorithm (RBSA)

- 1) One_Rice_Bag_Lifted_Probability = 0.5
- 2) Two_Rice_Bags_Lifted_Probability = 0.25
- 3) Three_Rice_Bags_Lifted_Probability = 0.125
- 4) Four_Or_More_Rice_Bags_Lifted_Probability = 0.125
- 5) Initialize Population of Humans
- 6) Set Generation = 1
- 7) Identify Best_Human with best fitness value
- 8) for each Human:
- 9) Direction = Best_Human – Human
- 10) Convert Direction into unit vector
- 11) Generate Random Number “R”
- 12) if $0 < R < 0.5$ then
- 13) position = position + Direction*1
- 14) if $0.5 < R < 0.75$ then
- 15) position = position + Direction*2
- 16) if $0.75 < R < 0.875$ then
- 17) position = position + Direction*3
- 18) if $0.875 < R < 1$ then
- 19) position = position + Direction*4
- 20) end for each Human loop
- 21) Generation = Generation + 1
- 22) Loop until termination condition is reached

IV. ENGLISH LANGUAGE SENTENCE ALGORITHM

Ten English Sentences are selected in line no. 1. Sentence_Length_Array contains the length of 10 sentences. Population of Humans is initialized and Generation count is set to 1. In line no. 5, Best_Human with best fitness value is

identified. For each Human loop is started in line no. 6. Direction of movement is calculated in lines 7 and 8. Each sentence is selected with a probability 0.1. The position update equation depends on random number R and probabilities. The Human moves along the Direction and magnitude of this movement is $\text{Sentence_Length_Array}[\text{Sentence_Number_Selected}]$. This is shown in lines 10 to 29. For each Human loop is ended in line no. 30. Generation count is incremented by 1. This process is continued until termination condition is reached in line no. 32.

Procedure: English Language Sentence Algorithm (ELSA)

- 1) Select 10 English Sentences
- 2) Calculate $\text{Sentence_Length_Array}$
- 3) Initialize Population of Humans
- 4) Set Generation = 1
- 5) Identify Best_Human with best fitness value
- 6) for each Human:
 - 7) $\text{Direction} = \text{Best_Human} - \text{Human}$
 - 8) Convert Direction into unit vector
 - 9) Generate Random Number "R"
 - 10) if $0 < R < 0.1$ then
 - 11) $\text{position} = \text{position} + \text{Direction} * \text{Sentence_Length_Array}[1]$
 - 12) if $0.1 < R < 0.2$ then
 - 13) $\text{position} = \text{position} + \text{Direction} * \text{Sentence_Length_Array}[2]$
 - 14) if $0.2 < R < 0.3$ then
 - 15) $\text{position} = \text{position} + \text{Direction} * \text{Sentence_Length_Array}[3]$
 - 16) if $0.3 < R < 0.4$ then
 - 17) $\text{position} = \text{position} + \text{Direction} * \text{Sentence_Length_Array}[4]$
 - 18) if $0.4 < R < 0.5$ then
 - 19) $\text{position} = \text{position} + \text{Direction} * \text{Sentence_Length_Array}[5]$
 - 20) if $0.5 < R < 0.6$ then
 - 21) $\text{position} = \text{position} + \text{Direction} * \text{Sentence_Length_Array}[6]$
 - 22) if $0.6 < R < 0.7$ then
 - 23) $\text{position} = \text{position} + \text{Direction} * \text{Sentence_Length_Array}[7]$
 - 24) if $0.7 < R < 0.8$ then
 - 25) $\text{position} = \text{position} + \text{Direction} * \text{Sentence_Length_Array}[8]$
 - 26) if $0.8 < R < 0.9$ then
 - 27) $\text{position} = \text{position} + \text{Direction} * \text{Sentence_Length_Array}[9]$
 - 28) if $0.9 < R < 1$ then
 - 29) $\text{position} = \text{position} + \text{Direction} * \text{Sentence_Length_Array}[10]$
- 30) end for each Human loop
- 31) Generation = Generation + 1
- 32) Loop until termination condition is reached

V. OBJECT SWARM OPTIMIZATION ALGORITHM

The position of objects is initialized in line no. 1. Generation count is set to 1. In line no. 3, Best_Object with best fitness value is identified. For each Object loop is started in line no. 4. The Direction of movement is calculated in lines 5 and 6. Rotate_Direction Probabilities are initialized.

Based on Random number generated and probabilities, the Direction vector is rotated. Position update equation is shown in line number. 17. The Object moves along Direction and magnitude of this movement is Step value. In line no. 18, for each Object loop is ended. Generation counter is incremented by 1. This process is continued until termination condition is reached in line no. 20.

Procedure: Object Swarm Optimization Algorithm (OSOA)

- 1) Initialize position of Objects in Search Space
- 2) Set Generation = 1
- 3) Identify Best_Object with best fitness value
- 4) for each Object:
 - 5) $\text{Direction} = \text{Best_Object} - \text{Object}$
 - 6) Convert Direction into unit vector
 - 7) $\text{Rotate_Direction_By_Zero_Degrees_Probability} = 0.8$
 - 8) $\text{Rotate_Direction_By_Five_Degrees_Probability} = 0.1$
 - 9) $\text{Rotate_Direction_By_Minus_Five_Degrees_Probability} = 0.1$
 - 10) Generate Random Number "R"
 - 11) if $0 < R < 0.8$ then
 - 12) do nothing
 - 13) if $0.8 < R < 0.9$ then
 - 14) Rotate Direction by 5 Degrees
 - 15) if $0.9 < R < 1$ then
 - 16) Rotate Direction by -5 Degrees
 - 17) $\text{position} = \text{position} + \text{Direction} * \text{Step}$
 - 18) end for each Object loop
 - 19) Generation = Generation + 1
 - 20) Loop until termination condition is reached

VI. CONCLUSIONS

This article designed four unique Swarm Intelligence algorithms CMRA, RBSA, ELSA, and OSOA. CMRA is inspired by Cricket match. RBSA is inspired by Rice Bags Sales. ELSA is inspired by Sentences in English. The final algorithm OSOA belongs to Object Swarm Intelligence. Objects move in search space in OSOA algorithm. The first three algorithms CMRA, RBSA and ELSA belong to Human Swarm Optimization field. Artificial Humans move in search space in these three algorithms.

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Teacher Brother Sister Father Mother Friend Artificial Intelligence Algorithm (TBSFMFAIA)

Satish Gajawada
IIT Roorkee Alumnus
satish.gajawada.iit@gmail.com

Abstract—Swarm intelligence is an active area of research. A new algorithm titled Teacher Brother Sister Father Mother Friend Artificial Intelligence Algorithm (TBSFMFAIA) is proposed in this article. The proposed TBSFMFAIA Artificial intelligence algorithm belongs to Human Swarm Optimization (HSO) field.

Keywords—Artificial Intelligence, Swarm Intelligence, Teacher, Brother, Sister, Father, Mother, Friend, TBSFMFAIA

I. INTRODUCTION

Relevant Artificial Intelligence literature is shown in articles [1] to [8]. A unique and novel algorithm titled Teacher Brother Sister Father Mother Friend Artificial Intelligence Algorithm (TBSFMFAIA) is designed in this article. Section 2 shows designed TBSFMFAIA algorithm. Conclusions are made in section 3 followed by References.

II. TEACHER BROTHER SISTER FATHER MOTHER FRIEND ARTIFICIAL INTELLIGENCE ALGORITHM

Population Initialization is done in lines 1 to 6. Coefficients are set in lines 7 to 12. Probabilities are initialized in lines 13 to 19. Human Population is initialized in line no. 20. Generation is set to 0. For each Human loop is started in line no. 22. Based on random number generated and probabilities, Human moves towards either Teacher or Brother or Sister or Father or Mother or Friend. Line no. 25 shows Direction of movement towards Teacher. This Direction is converted to unit vector. Line no. 27 shows position update equation. The Human moves towards Teacher along Direction and magnitude of this movement is Towards_Teacher_Coefficient multiplied by Step value. Lines 28 to 31 shows movement of Human towards Brother. Lines 32 to 47 shows other movement of Human towards Sister, Father, Mother and Friend respectively. Lines 48 to 49 shows idle movement. The position remains as it is. In line no. 50. For each Human loop is ended. Generation counter is incremented by 1. Teacher, Brother, Sister, Father, Mother and Friend populations are Updated in lines 52 to 57. This process is continued until termination condition is reached in line no. 58.

Procedure: Teacher Brother Sister Father Mother Friend Artificial Intelligence Algorithm (TBSFMFAIA)

- 1) Initialize Teacher Population
- 2) Initialize Brother Population
- 3) Initialize Sister Population
- 4) Initialize Father Population
- 5) Initialize Mother Population
- 6) Initialize Friend Population
- 7) Towards_Teacher_Coefficient = 0.3
- 8) Towards_Brother_Coefficient = 0.4

- 9) Towards_Sister_Coefficient = 0.4
- 10) Towards_Father_Coefficient = 0.5
- 11) Towards_Mother_Coefficient = 0.5
- 12) Towards_Friend_Coefficient = 0.3
- 13) Teacher_Probability = 0.15
- 14) Brother_Probability = 0.15
- 15) Sister_Probability = 0.15
- 16) Father_Probability = 0.15
- 17) Mother_Probability = 0.15
- 18) Friend_Probability = 0.15
- 19) Idle_Probability=0.1
- 20) Initialize Human Population
- 21) Generation = 0
- 22) for each Human loop:
- 23) Generate random number “R”
- 24) If $0 < R < 0.15$ then
- 25) Direction = Teacher – Human
- 26) Convert Direction to unit vector
- 27) Position = position + Direction*
Towards_Teacher_Coefficient*Step
- 28) If $0.15 < R < 0.30$ then
- 29) Direction = Brother – Human
- 30) Convert Direction to unit vector
- 31) Position = position + Direction*
Towards_Brother_Coefficient*Step
- 32) If $0.30 < R < 0.45$ then
- 33) Direction = Sister – Human
- 34) Convert Direction to unit vector
- 35) Position = position + Direction*
Towards_Sister_Coefficient*Step
- 36) If $0.45 < R < 0.6$ then
- 37) Direction = Father – Human
- 38) Convert Direction to unit vector
- 39) Position = position + Direction*
Towards_Father_Coefficient*Step
- 40) If $0.6 < R < 0.75$ then
- 41) Direction = Moomther – Human
- 42) Convert Direction to unit vector
- 43) Position = position + Direction*
Towards_Mother_Coefficient*Step
- 44) If $0.75 < R < 0.9$ then
- 45) Direction = Friend – Human
- 46) Convert Direction to unit vector
- 47) Position = position + Direction*
Towards_Friend_Coefficient*Step
- 48) If $0.9 < R < 1$ then
- 49) Position = position
- 50) End for each Human loop
- 51) Generation = Generation + 1
- 52) Update Teacher Population
- 53) Update Brother Population
- 54) Update Sister Population

- 55) Update Father Population
- 56) Update Mother Population
- 57) Update Friend Population
- 58) Loop until termination condition is reached

III. CONCLUSIONS

An interesting algorithm titled Teacher Brother Sister Father Mother Friend Artificial Intelligence Algorithm (TBSFMFAIA) is designed and shown in this article. There is scope to change Towards_Teacher_Coefficient and other coefficients. One can try and experiment with different probabilities like Teacher_Probability that are present in TBSFMFAIA algorithm. This is just the beginning of Teacher Brother Sister Father Mother Friend Artificial Intelligence Algorithm (TBSFMFAIA) algorithm. One may create several unique and new algorithms by taking inspiration from TBSFMFAIA algorithm designed in this article.

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Prabhakar Gajawada Bhagyamma Gajawada Satish Gajawada Artificial Intelligence Algorithm (PBGSGAIA)

Satish Gajawada
IIT Roorkee Alumnus
satish.gajawada.iit@gmail.com

Abstract—Many Human Swarm Optimization (HSO) algorithms were proposed in literature. These algorithms are based on Humans in general. But every Human is unique. Hence in this paper a novel algorithm based on 3 Humans Satish Gajawada, Prabhakar Gajawada and Bhagyamma Gajawada has been designed. Satish Gajawada is the son of Prabhakar Gajawada and Bhagyamma Gajawada. A unique algorithm titled Prabhakar Gajawada Bhagyamma Gajawada Satish Gajawada Artificial Intelligence Algorithm (PBGSGAIA) is proposed in this article.

Keywords—Artificial Intelligence, Swarm Intelligence, Human Swarm Optimization, Prabhakar Gajawada, Bhagyamma Gajawada, Satish Gajawada, Prabhakar Gajawada Bhagyamma Gajawada Satish Gajawada Artificial Intelligence Algorithm, PBGSGAIA

I. INTRODUCTION

Relevant Swarm Intelligence literature is shown in articles [1] to [6]. In this article, an interesting algorithm titled Prabhakar Gajawada Bhagyamma Gajawada Satish Gajawada Artificial Intelligence Algorithm (PBGSGAIA) has been designed. Section 2 explains proposed PBGSGAIA algorithm. Conclusions are made in Section 3 followed by references.

II. PRABHAKAR GAJAWADA BHAGYAMMA GAJAWADA SATISH GAJAWADA ARTIFICIAL INTELLIGENCE ALGORITHM

The Population is initialized in first 3 lines. Generation count is set to 0. Best individuals are found in lines 5 to 7. For each Satish Gajawada loop is started in line no. 8. Based on Random Number generated and probabilities, Satish Gajawada moves along Best Prabhakar Gajawada or Best Bhagyamma Gajawada or Best Satish Gajawada or along combination of three directions. Position update equations are shown in lines 13, 17, 21 and 27. Line no. 28 ends for each Satish Gajawada loop. Population is updated in lines 29 and 30. Generation count is incremented by 1. This process is continued until termination condition is reached in line no. 32.

Procedure: Prabhakar Gajawada Bhagyamma Gajawada Satish Gajawada Artificial Intelligence Algorithm (PBGSGAIA)

- 1) Initialize Prabhakar Gajawada Population
- 2) Initialize Bhagyamma Gajawada Population
- 3) Initialize Satish Gajawada Population
- 4) Set Generation = 0
- 5) Identify Best Prabhakar Gajawada with best fitness value
- 6) Identify Best Bhagyamma Gajawada with best fitness value
- 7) Identify Best Satish Gajawada with best fitness value

- 8) Loop for each Satish Gajawada:
- 9) Generate Random number "R"
- 10) if $0 < R < 0.25$:
- 11) Direction = Best Prabhakar Gajawada – Satish Gajawada
- 12) Convert Direction into Unit Vector
- 13) position = position + Direction*Step
- 14) if $0.25 < R < 0.50$:
- 15) Direction = Best Bhagyamma Gajawada – Satish Gajawada
- 16) Convert Direction into Unit Vector
- 17) position = position + Direction*Step
- 18) if $0.50 < R < 0.75$:
- 19) Direction = Best Satish Gajawada – Satish Gajawada
- 20) Convert Direction into Unit Vector
- 21) position = position + Direction*Step
- 22) if $0.75 < R < 1$:
- 23) Direction1 = Best Prabhakar Gajawada – Satish Gajawada
- 24) Direction2 = Best Bhagyamma Gajawada – Satish Gajawada
- 25) Direction3 = Best Satish Gajawada – Satish Gajawada
- 26) Convert Direction1, Direction2 and Direction3 into Unit Vectors
- 27) position = position + $0.33*Direction1*Step + 0.33*Direction2*Step + 0.34*Direction3*Step$
- 28) End for each Satish Gajawada loop
- 29) Update Prabhakar Gajawada Population
- 30) Update Bhagyamma Gajawada Population
- 31) Generation = Generation + 1
- 32) Loop until termination condition reached is true

III. CONCLUSIONS

An innovative algorithm which is based on 3 Humans Prabhakar Gajawada, Bhagyamma Gajawada and Satish Gajawada is invented in this article. Satish Gajawada moves along the direction of Best Prabhakar Gajawada or Best Bhagyamma Gajawada or Best Satish Gajawada or combination of these three directions. PBGSGAIA algorithm proposed in this article is just the beginning. One may move in the direction shown in this article to design more unique, interesting and innovative algorithms.

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Kindness Love Satisfaction Peace Excellence Money Happiness Respect Intelligence Health Artificial Intelligence Algorithm (KLSPEMHRIHAIA)

Satish Gajawada
IIT Roorkee Alumnus
satish.gajawada.iit@gmail.com

Abstract—Kindness Love Satisfaction Peace Excellence Money Happiness Respect Intelligence Health Artificial Intelligence Algorithm (KLSPEMHRIHAIA) is the novel and unique algorithm invented in this article. This algorithm belongs to Human Swarm Optimization (HSO) field.

Keywords—Human Swarm Optimization, HSO, Swarm Intelligence, Artificial Intelligence, Kindness, Love, Satisfaction, Peace, Excellence, Money, Happiness, Respect, Intelligence, Health, KLSPEMHRIHAIA

I. INTRODUCTION

Relevant Artificial intelligence literature is shown in articles [1] to [5]. An interesting algorithm titled Kindness Love Satisfaction Peace Excellence Money Happiness Respect Intelligence Health Artificial Intelligence Algorithm (KLSPEMHRIHAIA) is designed in this article. Invented KLSPEMHRIHAIA algorithm is explained in Section 2. Section 3 shows the Conclusions made. References are available at the end.

II. KINDNESS LOVE SATISFACTION PEACE EXCELLENCE MONEY HAPPINESS RESPECT INTELLIGENCE HEALTH ARTIFICIAL INTELLIGENCE ALGORITHM

Ten different Arrays are initialized in lines [1] to [10]. Generation is set to 0. Best Humans are identified in lines 12 to 21. In line no. 22 for each Human loop is started. Human moves along 10 different Directions as shown in lines 23 to 32. Unit Vectors of all directions are obtained in line no. 33. Line no. 34 shows position update equation. Human moves along the combination of ten Directions as shown in position update equation. For each Human loop is ended in line no. 35. Generation count is incremented by 1. Lines 37 to 46 updates all the ten different arrays. This process continues until termination condition is reached in line no. 47.

Procedure: Kindness Love Satisfaction Peace Excellence Money Happiness Respect Intelligence Health Artificial Intelligence Algorithm (KLSPEMHRIHAIA)

- 1) Initialize Kindness_Array
- 2) Initialize Love_Array
- 3) Initialize Satisfaction_Array
- 4) Initialize Peace_Array
- 5) Initialize Excellence_Array
- 6) Initialize Money_Array
- 7) Initialize Happiness_Array
- 8) Initialize Respect_Array
- 9) Initialize Intelligence_Array
- 10) Initialize Health_Array

- 11) Generation = 0
- 12) Best_Kindness_Human = Human with best Kindness value
- 13) Best_Love_Human = Human with best Love value
- 14) Best_Satisfaction_Human = Human with best Satisfaction value
- 15) Best_Peace_Human = Human with best Peace value
- 16) Best_Excellence_Human = Human with best Excellence value
- 17) Best_Money_Human = Human with best Money value
- 18) Best_Happiness_Human = Human with best Happiness value
- 19) Best_Respect_Human = Human with best Respect value
- 20) Best_Intelligence_Human = Human with best Intelligence value
- 21) Best_Health_Human = Human with best Health value
- 22) for each Human:
- 23) Direction1 = Best_Kindness_Human – Human
- 24) Direction2 = Best_Love_Human – Human
- 25) Direction3 = Best_Satisfaction_Human – Human
- 26) Direction4 = Best_Peace_Human – Human
- 27) Direction5 = Best_Excellence_Human – Human
- 28) Direction6 = Best_Money_Human – Human
- 29) Direction7 = Best_Happiness_Human – Human
- 30) Direction8 = Best_Respect_Human – Human
- 31) Direction9 = Best_Intelligence_Human – Human
- 32) Direction10 = Best_Health_Human – Human
- 33) Convert all 10 Directions into unit Vectors
- 34) position = position +
0.1*Direction1*Step +
0.1*Direction2*Step +
0.1*Direction3*Step +
0.1*Direction4*Step +
0.1*Direction5*Step +
0.1*Direction6*Step +
0.1*Direction7*Step +
0.1*Direction8*Step +
0.1*Direction9*Step +
0.1*Direction10*Step
- 35) end for each Human loop
- 36) Generation = Generation + 1
- 37) Update Kindness_Array
- 38) Update Love_Array
- 39) Update Satisfaction_Array
- 40) Update Peace_Array
- 41) Update Excellence_Array
- 42) Update Money_Array
- 43) Update Happiness_Array
- 44) Update Respect_Array

- 45) Update Intelligence_Array
- 46) Update Health_Array
- 47) Loop until termination condition reached is True

III. CONCLUSIONS

An innovative algorithm titled KLSPEMHRHAIA algorithm which is based on Kindness, Love, Satisfaction, Peace, Excellence, Money, Happiness, Respect, Intelligence, Health is designed in this article. In this algorithm Human moves along the combination of ten different directions. This is just the beginning of KLSPEMHRHAIA algorithm. Many unique and novel algorithms may be invented by taking inspiration from KLSPEMHRHAIA algorithm designed in this article.

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