

# HUAMN INTERFACE DECORATION EMPATHY USING BEE COLONY OPTIMIZATION ALGORITHM

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## Abstract

*Human interaction is discovered the semantic knowledge about human interaction in various meeting. In this meeting purpose to identify the human intention such like giving comments, pos opinion, negative opinion, feedback, gesture, suggestion, innovative ideology, acknowledgement etc. since these are all about data collect to protect and improve your target by using BCO. And especially STA using to improve efficiency and remove all irrelevant data (PP) and we can easily identify the human intention in various meeting discussions. Even though the human interaction having some crucial factor for identifying the structure of the irrelevant data sometime. So we proposed the rule of pruning to resolve the structure first. After that we introduced the concept of STA or Lemmatize to done a process of pre-processing session. Hence we improved the quality of data by using BCO and the pattern functionality is needed to be frequent in simultaneously. Then the human interaction is one of the enormous factors in social dynamics. While we are using the discussion in several sectors such like medical, banking etc. But wherever the discussion will be appear we concentrate to achieve the target by using efficient technique to improve better optimal solution.*

**Keywords:** Data Mining, Bee Colony Optimization (BCO), pruning, Pre Processing (PP), Stemming algorithm (STA), Lemmatizer.

## 1. Introduction

To discovering human interaction in meetings depends on tree based methods. Because using the tree based concepts to make a proper **Decision making** in several meetings for identify the flow of human interaction. It will be vary from one human to other human behaviours. So it will be introducing the enormous techniques of optimized human interaction in meeting using STA. It consists of pos pos, pos neg opinion, and true negative, false negative opinion, feedback, suggestion and innovative ideology, giving comments, acknowledgements, indicate the user intention towards corresponding meeting scenarios. First we classified the various meeting in tree based structure.

We make a framework to identify the **flow of interaction** in various meetings. Hence A. Nijholt et al said **it recognized group actions in meetings by modelling the joint**

**behaviour of participants based on a two layer HMM framework [1].**

It's initialized flow to discovering the knowledge of human interaction. Zhiwen et al depicts to **the definition of interaction types naturally varies according to usage [2].** In this human interaction refers to identify the process of exact human interaction by gesture, comments through meeting and easy to handle for that. We proposed to **STA** or lemmatize algorithm to identify the exact human interaction in face to face meeting or review etc. (i.e. hmmm it denote to OK, NOT OK, LIBERALLY OK.) even though the existing systems declared the data in assumption manner alone.

But this STA technique will be rapidly identified the exact human intention and admin can easily handle the crucial situations too. And another one great merits of optimized the memory by using the method of **BCO**.

In this **BCO** technique used to optimize the memory capacity and using n numbers of data to recognize the human interaction in meeting. It consists of schedule, construct, update, daemon activity appear to easily work out for this human interaction functionality in meeting by using tree based.

## 2. Related Works

In this human interaction meeting discovered to flow of interaction defined in two ways. The flow of human interaction is structured and unstructured defined in tree based method. Fozia hanif khan et al refers to **we are introducing the new fittest criteria for crossing over and applying the algorithm on symmetric as well as asymmetric in different way** [3].

And we are introducing BCO to optimize the memory capacity and the dataset has been collected from WEBSHAM UK2007 and implemented by java environment the optimal solution is compared with the ACO and BCO optimization. It is used to better detecting spam [4].

Hence the author of Samreen Sadaf quazi et al refers to discovering knowledge from human interactions of any group activity is important for interpreting and understanding the behavior of human interaction [5]. Because then the frequent pattern of interaction will give a relationship between employees and admin. Since discovered the patterns can be used in meetings to determine the frequent interactions and relationship between interactions [5].

Even though the interaction of group activity should be identified the frequent patterns to make a decision by using tree based methods of human interaction in various meeting discussions. After that we inherit the technique of STA to identify the exact human intention in interaction in meeting. STA problem has been addressed in many contents and by researchers in many disciplines. It's also presents with some of the solutions for various some other languages along with results [6]. A tree based mining approach is used for discovering frequent patterns of human interaction in meeting discussion. For filtering the meeting contents stop words and removal STA is applied [7].

Hence the multimodal interactions to extract important patterns of group activities the event indices can be used for example to

summarize a set of events and to search for particular events. Because they contain various pieces of content information is needed [8]. The information retrieval systems efficiently do a process by using STA. because it's to improve a structure by refining with certain constraints with efficient manner [9].

In this STA process that proposes the corresponding solutions and also deals with the enhancement of text pre-processing using improved porter's algorithm by taking prefixes into an account [10].

## 3. Methodology

We proposed to do a process of mainly identified the human interactions in various meeting by using BCO and STA. because the existing system having some drawback such as need a large memory, assumed the human interactions not exactly and difficult to handled. But we proposed to using BCO is optimized the memory and using the "n" numbers of parameter in several meeting of human interactions. And especially we inherit the technique of STA to identify the exact human intention and text preprocessing in human interaction in meeting. Hence we used tree based flow of interactions for human interaction in meeting discussions.

### 3.1 Summary of Artificial BCO:

The BCO consists of an initialization procedure and a main search cycle which is iterated for a given number T of times or until a solution of acceptable fitness is found. It having features are,

1. Foraging honey behavior
2. Global optimization algorithm
3. Initially proposed for numerical optimization
4. It is used for combinatorial optimization problems
5. Constrained and unconstrained problems
6. Employees only can three parameters (population size, maximum cycle number and limit)
7. Simple, flexible and robust.

#### a. The Artificial Bee Colony :

### 3.2.1 Initialization Phase

The possibility of searching food sources,  $xm \rightarrow$ 's, are initialized ( $m=1 \dots SN$ ,  $SN$ : population size) by scout bees and control parameters must be set to ABC algorithm. Hence each food source,  $xm \rightarrow$ , is a solution for vector to the optimization problem.

$$xmi = li + rand(0,1) * (ui - li)$$

Where,  $li$  and  $ui$ : lower and upper bound of the parameter  $xmi$ , respectively.

### 3.2.2. Employed Bees Phase

Employee bees can be finding the neighbourhood source for getting food regarding artificial ABC algorithm. It is very useful to identify the bees foraging of find out the human interaction in meeting discussions properly.

$$v_{mi} = x_{mi} + \phi_{mi} (x_{mi} - x_{ki})$$

Where  $xk \rightarrow$  is refers to randomly select the food source.

### 3.2.3. Onlooker Bees Phase

It consists of two types of bees. Here, onlooker bees and scouts. Employed bees are finding the food to bypass the information

behind the hive of onlooker bees. Then the **onlooker bees** also as well same and calculated the probabilistic of foraging food search method in applying human interaction to discovered by the semantic knowledge. Unemployed bees who their finding the food randomly is called **scout bees**.

Onlooker bees calculated these expressions are,

$$P_m = \text{fit}_m (xm \rightarrow) / \sum_{m=1}^{SN} \text{fit}_m (xm \rightarrow)$$

### 3.3 The Artificial Bee Colony Meta-heuristic

In ABC, to represent the proper solution of bees foraging to declare the better quality of data will be finding by human interaction in several meeting discussion. Since the ABC to make pseudo code for high level language to provide a better efficiency and to improve the quality to given an optimal solution for corresponding problem in our meeting. Especially the pruning will remove the irrelevant data to provide accuracy for that. In ABC, access by the data randomly and to choose a path to neighbourhood correspondingly. Then the process denote to access from various meeting in human interaction by using several methodology. Human interaction will discuss about several methodologies to finding the probabilistic of quality and requirement will overcome by ABC technique. Here,

S.NO	ALGORITHM	MERITS	DEMERITS	APPLICATION
1.	T Pattern Technique	<ul style="list-style-type: none"> <li>Easy to handle</li> <li>Extract Simultaneously</li> </ul>	The flow of data is frequent tree or sub tree in the database.	Frequently used.
2.	Pattern Discovery	<ul style="list-style-type: none"> <li>To identify the flow of data</li> <li>Extract the knowledge about human interaction.</li> </ul>	<ul style="list-style-type: none"> <li>The flow is declared as a tree structure.</li> <li>Need large memory capacity.</li> </ul>	Nil
3.	Pattern discovery TD or TID	Frequently access to flow of human interaction.	Nil	Limited data can access by pattern discovery.
4.	Stemming or lemmatize	<ul style="list-style-type: none"> <li>Stop word removal</li> <li>Identify the human intention</li> </ul>	Identify the antecedent and decedents words	Optimum or near optimum solution.

		<ul style="list-style-type: none"> <li>Pre processing.</li> </ul>	like prefix into an account.	
5.	Tree pattern	<ul style="list-style-type: none"> <li>Extract interaction flow patterns</li> <li>Relationship between different types of interactions.</li> </ul>	Summarization, indexing and comparison of meeting records.	Frequent pattern
6.	Apriori hybrid	Better than both Apriori and Apriori TID.	Used where Apriori and Apriori used.	Nil
7.	Rapid ARM	<ul style="list-style-type: none"> <li>Avoids candidate generation process.</li> <li>Faster than FP tree algorithm.</li> </ul>	Requires more memory	Nil
8.	Stochastic technique	Detecting and visualizing human interaction in meeting.	Collection of random variables.	Evaluation of some over random time and random variables.
9.	Artificial BCO	It will be act like bees foraging for human interaction.	Randomly access.	Not frequently used.
10.	ABC STA	<ul style="list-style-type: none"> <li>To optimum for fetch for human intention.</li> <li>Optimize the memory.</li> </ul>	Randomly access to finding solution.	Not frequently used.

**Figure 3.3.1 Comparison of technique**

### 3.4 Artificial BCO Syntax:

Initialization Phase

REPEAT

Employed Bees Phase

Onlooker Bees Phase

Scout Bees Phase

Memorize the best solution achieved so far

UNTIL (Cycle=Maximum Cycle Number or a Maximum CPU time)



#### 4. Result:

All the methodology having some drawback of

- Require more memory
- Frequent pattern
- Random time and variables
- Difficult to handle
- Tree structure used to happen crucial is identified is rare and trouble for that.

So we are introducing the technique of ACO to using and inherit the STA and overcome those all drawback with efficiently. And ACO used to optimize the memory and STA to giving optimal solution regarding human interaction in various meeting at easily. Even though we taken by large data sets and used ACO AM to discover the semantic knowledge about human intention regarding all meetings at proper time.

#### 5. Conclusion & Future Enhancement:

In this paper, we propose ACO and STA to easily identify the human intention and to given an optimal solution for that. In case then the negative opinion will getting highly we need to take pre-processing to resolved it at the moment by using pruning in data mining. Compare to existing work, it will be efficient and better performance to identify the optimum or near optimum solution.

In the future work we will discuss whether the human interaction in meeting us finding the exact solution by using neural networks and embedded to quickly identify for the processing in several meetings. Because the embedded technique is reduced the irrelevant data and optimize solution given at proper time manner with quickly not take longer. It's easy to handle and great helpful for privileged persons (admin).

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