

## **View Reviews**

Paper ID

45

Paper Title

Optimized Forward Consecutive Mean Excision Algorithm for Adaptive Threshold Estimation in the Energy Detector

Track Name

COMPUTING, COMPUTING ENGINEERING AND ICT

## **Reviewer #2**

### **Review Questions**

#### **1. Kindly Summarize the Manuscript in 1-2 sentences.**

- The manuscript put forward a Forward Consecutive Mean Excision (FCME) algorithm for autonomous threshold estimation in Cognitive Radio (CR). The FCME is made capable of autonomously adjusting its parameter values based on the Cuckoo Search Optimization (CSO) algorithm. The FCME results show better threshold values optimization than the non-optimized results.
- Improve the performance of Forward Consecutive Mean Excision based on cuckoo search algorithm and it was found be better than the classical methods

#### **2. Please provide more detailed review by assigning scores for the item 2-5 below: -Novelty and Originality**

- Good

#### **3. This paper is presented in a format which is accessible by practitioners. It focuses on justification, results and implementation; has readable style; with technical material provided.**

- Good

#### **4. The research methodology is appropriate and properly applied, the supporting evidence in the paper is strongly reliable & properly validated.**

- Good

#### **5. Discussion of the results is based on analysis of data; results are not overstated or overgeneralized**

- Average

**6. What is Your Overall Recommendation on the Submitted Manuscript?**

- Accept (with Major correction)

**7. Does this paper need a professional editing assistance?**

- No

**8. Does the paper contain graphics that require improved resolution?**

- YES

**9. WHAT ARE THE STRENGTHS OF THE MANUSCRIPT?**

- Generally, the paper is well organised and I would be glad to recommend it for publication after the corrections above.
- improve Forward Consecutive Mean Excision based on cuckoo search algorithm

**10. WHAT ARE THE WEAKNESSES AND SUGGESTIONS ?**

A. However, the following observations are made to improve the quality of the manuscript.

1. I suggest the title should be modified by adding the missing “Cuckoo Search Optimization”. Therefore, it should read “Optimized Forward Consecutive Mean Excision Algorithm with Cuckoo Search Optimization Algorithm for Adaptive Threshold Estimation in the Energy Detector”.

2. The summary of the result is also missing at the Abstract. Please, improve the abstract to reflect the results.

3. Though there are a lot of explanations and formulations of the steps of the proposed FCME method, but the algorithm is not presented in the manuscript either in the form of pseudocodes or flowcharts. Please, add the algorithms.

4. It will be interesting to see a section or paragraph that will discuss in detail the complexity of the Algorithms as compared with the comparative algorithms as well.

5. References are not adequate as some important literature in optimization are missing. The authors may also cite the following useful references.

- Madni, S. H. H., & Latiff, M. S. A. (2017). Optimal Resource Scheduling for IaaS Cloud Computing using Cuckoo Search Algorithm. Sains Humanika, 9(1-3).

-Abdullahi, M. and Ngadi, M. A. (2016). Symbiotic Organism Search Optimization Based Task Scheduling in Cloud Computing Environment. Future Generation Computer Systems. 56 640-650.

B. The title of the paper should reflect cuckoo search algorithm because it forms the core of the methodology.

- The cuckoo search algorithm require balancing between the exploitation and the exploration for better performance, I cant find the step size setting of the cuckoo search algorithm which is crucial in balancing the exploitation and exploration. As it is known that too much exploitation lead to fast convergence but has no guarantee of global optimum solution likewise too much of exploration led to meandering and computational cost. How does the authors comes about the setting of  $p_a$  is it through trial and error or experimental? Please explain how? What particular feature of the cuckoo search algorithm that makes it fit to solve the problem at hand (Forward Consecutive Mean Excision).
- References
- The references in the paper are obsolete. For example, out of the 16 cited references, 15 are not within the last five years. The most current reference in the paper is 2013. This shows that the recent development in the research area that took place in 2014, 2015, 2016, 2017, and 2018 were not considered by the authors. It really indicated that there is a missing link between what is currently happening in the research area and what the authors are proposing in their study.
- The paper should be updated with current references for almost 5 years (2014, 2015, 2016, 2017, and 2018)