SSCI 2020 Paper #502 Decision Notification

Hussein Abbass <ieeessci2020@gmail.com>
Sat 9/19/2020 2:43 AM
To: Avinash Singh <Avinash.Singh@uts.edu.au>

Dear Author(s),

Congratulations! On behalf of 2020 IEEE Symposium Series on Computational Intelligence (SSCI) (SSCI 2020)Chairs, we are pleased to inform you that your paper:

Paper ID: 502
Author(s): Tien-Thong Do, Avinash Singh, Tirado Cortes Carlos and Lin Chin-Teng
Title: Estimating the cognitive load in physical spatial navigation

has been accepted for Oral presentation at the 2020 IEEE Symposium Series on Computational Intelligence (SSCI) (SSCI 2020) and for publication in the conference proceedings published by IEEE.

The conference will run virtually in 2020. This email provides you with all the information required to generate the final version of the paper and detailed information on presentation.

Please follow the subsequent steps carefully:

1. Please accurately address the attached REVIEWERS' COMMENTS which are intended to improve the quality of the final manuscript. Final acceptance is conditional on an appropriate response to the requirements and comments.

2. Prepare your manuscript for final camera-ready submission by following the detailed instructions available on the conference web site. Please use the IEEE template:

http://www.ieeessci2020.org/submission.html

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Please do adhere to the strict deadline for final manuscript submission October 2, 2020. Any papers submitted after this date will NOT be included in

the proceedings. The paper must be re-submitted even if the reviewers indicated that no change is required since the final pdf version should be IEEE PDF eXpress compatible.

3. Register for the conference at http://www.ieee-ssci.org by clicking on the conference registration link on the left-hand side of the main page, or you can directly go to the registration website at:

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IMPORTANT: Each paper must be covered by a full registration to be included in the proceedings. Papers that do not have an associated registered author by October 2, 2020 WILL NOT be included in the proceedings. Please try to avoid registering and submitting the manuscript at the very last minute to avoid possible problems.

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5. Your paper is accepted for an Oral Presentation. As a condition of acceptance, you will need to present the paper. First, you will need to prepare up to 15 minutes of a recorded video presentation that will be made available for all attendees to watch before and during the event. Second, you will need to prepare a single image with key points of your paper that will be displayed during the session. You will be given 3 minutes to present live the key points in your paper, and 3 minutes for questions. Each session will run for up to 40 minutes live, covering 6 papers in total. Details on the formatting of the video, the single image with key points, and instructions on how to submit them are available on the conference website.

If you have any questions regarding the reviews of your paper, please contact Carlos A. Coello Coello <ccoello@cs.cinvestav.mx>.

Thank you!

Sincerely,
Carlos A. Coello Coello, Program Chair
Hussein Abbass, General Chair

SESSION CHAIR'S COMMENTS

REVIEWERS' COMMENTS

REVIEW NO. 1

Originality: Weak Accept
Significance of topic: Weak Accept
Technical quality: Weak Accept
Relevance to SSCI 2020: Accept
Presentation: Weak Accept
Overall rating: Weak Accept

Reviewer's expertise on the topic: High
Suggested form of presentation: Any
Best Paper Award nomination: No

Comments to the authors:
This research summarizes the brain dynamics of successful navigation. In a
complex experiment, we can remove noise and extract meaningful features from
EEG data. Then, with two classes, classification was done in binary condition,
the model provided high accuracy. We therefore assume this approach will offer
more informative outcomes.
What's the reasoning behind the suggested approach? Mental workload is
context-related. How can you treat this? Groups are numerically poor. Have you
optimized hyperparameter? To me, the job seems overfitting, please recheck.

REVIEW NO. 2

Originality: Accept
Significance of topic: Accept
Technical quality: Weak Accept
Relevance to SSCI 2020: Strong Accept
Presentation: Weak Accept
Overall rating: Weak Accept

Reviewer's expertise on the topic: High
Suggested form of presentation: Any
Best Paper Award nomination: No

Comments to the authors:
This paper is very interesting. Some comments:
1. Is there any reason that the authors extract 14.5 sec for data analysis?

2. Did the author extract features? or the authors just use all 64*1525 dimension

as the inputs for all classifiers. Please clarify this point in the revised manuscript.

3. The authors are encouraged to apply statistic approaches to verify the classification performance.

4. The parameters of each classifier should be listed as well. The standard deviation of classification performance is expected.

REVIEW NO. 3

Originality: Neutral
Significance of topic: Weak Accept
Technical quality: Weak Reject
Relevance to SSCI 2020: Neutral
Presentation: Weak Reject
Overall rating: Weak Reject

Reviewer's expertise on the topic: Medium
Suggested form of presentation: Poster
Best Paper Award nomination: No

Comments to the authors:
Although some interesting ideas are presented and validated through a series of experiments, the significance of the study is questionable for a number of reasons.
This is a simple two-class problem of detecting high vs low cognitive load.
It is well-known that pupillary response is an accurate measure of cognitive load (Granholm, E., Asarnow, R. F., Sarkin, A. J., & Dykes, K. L. (1996).
Pupillary responses index cognitive resource limitations. Psychophysiology, 33(4), 457-461.), particularly if the classification task is simply to discriminate only between two conditions.
As such, the choice of adopting a much more complex and cumbersome EEG approach over the more established and straightforward approach, particularly if this were to be deployed in real-world situations, needs to be clearly justified.
However, this important point was glossed over early in the introduction without a proper discussion.
Furthermore, cognitive load estimation in real-world settings is not new (e.g. Lex Fridman, Bryan Reimer, Bruce Mehler, and William T. Freeman. 2018. Cognitive Load Estimation in the Wild. In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI '18). Association for Computing Machinery, New York, NY, USA, Paper 652, 1-9.
DOI:https://doi.org/10.1145/3173574.3174226).
For these reasons, the contributions of this paper are limited.