



IMWUT

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IMWUT 2019 May 2019

Review of 7501 - *"SmokingOpp: Detecting the Smoking 'Opportunity' Context Using Mobile Sensors"*

Reviewer 4 (Reviewer)

Contribution to IMWUT (Review of original submission)

This paper introduces objective methods to detect context that presents a higher opportunity to smoke. The problem is quite novel and the dataset is quite unique.

Impact (Review of original submission)

Significant impact

Review (Review of original submission)

This paper tackles a novel topic to automatically capture the opportunity of smoking context. The major strength of this paper is the dataset. However, the paper is poorly written, and hard to follow. So, the paper has to go through a major revision to be accepted at a top-tier journal like IMWUT.

Recommendation(s) to 1AE (Review of original submission)

Major revisions (enumerated in a subsequent field) are required for this to be publishable

Major / minor revisions (recommendation to 1AE) (Review of original submission)

1. The paper is long with a lot of unnecessary details, notations, abbreviations, etc.
2. Please describe section 3 before section 2. Describe the "Data collection" as a dataset. Currently, the data collected for this study came from a different trial. So, it should not be referred to as "data collection."
3. Describe section 3 as how you defined "opportunity." Here you can say you used EMA from the dataset to define "opportunity."
4. Section 4 is horribly confusing. Why are you detecting all these contexts? Your goal is

to detect smoking context. So, label the section as detecting smoking context and create a pipeline, where context mining is the first stage of the pipeline.

5. In section 4, draw a block diagram of GPS, accelerometer and puff-markers processing so that readers can anchor what they are expecting to see.

6. In section 4.1, is your goal to detect dwell places and POI? Then start with that rather than having the reader waiting for them till section 4.3. Also, all the GPS processing on page 6,7,8,9 are standard procedures, so these sections can be cut into one page. Readability of the paper can greatly be increased this way.

7. Section 6 is highly confusing. You are trying to show that your defined opportunity is correlated with smoking. This section uses no sensor data or detection of opportunity context. I would put this section along with where you define "opportunity." (i.e., section 2)

8. Section 7 is again highly confusing. You did one more round of GPS based feature development here. But, Section 4 did another round of GPS data analysis for model development. You can see why readers will be confused.

9. Section 7 also has a high amount of notations that are not later used. Please reduce unnecessary notations to improve readability.

Overall, I would anchor the entire paper around section 8, and concisely describe features, feature selection, label construction, and performance of the classifiers. Currently, the paper is highly unstructured and hard to review for scientific merits.

Confidence

Highly confident - I consider myself an expert in the area

Confidential Comments (Optional)

This paper is not ready for publication. The paper is badly written and it was torture to read this paper which is 25 pages long.

But, the idea and dataset are unique and interesting. So, I gave a major revision.