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Peer Review

# Review of: "Fabrication of Soft and Comfortable Pressure-Sensing Shoe Sole for Intuitive Monitoring of Human Quality Gaits"

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This research project proposed the design and fabrication of flexible pressure sensors using Ecoflex/Graphene composites integrated into insoles for real-time human gait monitoring and analysis. While the research addresses a relevant topic, the study lacks the depth and novelty required for publication. It is recommended that the manuscript be further developed and refined prior to resubmission. Key points for improvement include:

1. The introduction should be rewritten to clarify the study's purpose. A more concise and focused introduction is recommended, and it should explain why this review provides new knowledge or innovation to the field, as the current version is somewhat lengthy and looks more like a review paper than a research paper.
2. The proposed idea lacks novelty. Many existing papers have already explored it and achieved much better results.
3. The units and data presented throughout the manuscript lack consistency. For example, in Table 4.3, the author used Pa and Ohms, whereas in other tables, the author used kOhm and kPa. Additionally, the measured values display inconsistencies. For instance, resistance values for identical pressure measurements vary significantly between Tables 4.3 and 4.4, with Table 4.5 showing even greater anomalies. Clearly explaining why the author chose the parameters is also recommended.
4. In Figure 4.7, it provides a comparison of performance between the fabricated sensor and a commercial sensor (FSR 402 from Interlink Electronics). While the results appear comparable,

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the commercial sensor's datasheet specifies a resistance of approximately 1 kOhm at 1 kg compression, significantly lower than the proposed sensor's minimum measured resistance of 500 kOhms. A clear explanation is recommended.

5. The author should ensure that the font size is consistent across all figures.
6. The author should provide a more detailed explanation of the test system. The test system shown in Figure 4.3 is quite simple.
7. The author should improve the quality of the figures for clarity. The content in the figures is too blurry and not visible.

## Declarations

**Potential competing interests:** No potential competing interests to declare.