



SURAT PERNYATAAN PUBLIKASI

Kami yang bertandatangan dibawah ini bertindak atas nama dewan redaksi jurnal *Journal of Electrical Engineering and Computer*(JEECOM) :

Nama : Sulistiyanto, M.T

Jabatan : Ketua Dewan Redaksi

Institusi : Prodi Teknik Elektro, Fakultas Teknik, Universitas Nurul Jadid

menyatakan dengan sebenarnya bahwa :

Nama : Ahlul A'raaf Femas Salsabil

Institusi : Universitas Muhammadiyah Sidoarjo, Indonesia

Yang bersangkutan telah mengirimkan artikel untuk publikasi di jurnal **JEECOM** dengan detail makalah sebagai berikut :

Judul : Design And Build An Early Warning System For Health Conditions In Climbers Based On Fuzzy Logic

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Kami informasikan bahwa makalah tersebut **telah selesai direview dan dinyatakan diterima** untuk diterbitkan dalam *Journal of Electrical Engineering and Computer*(JEECOM) Program Studi Teknik Elektro Fakultas Teknik Universitas Nurul Jadid **Vol. 8 No. 1 Edisi April 2026**.

Demikian surat pernyataan ini kami buat dengan sebenar-benarnya dan agar digunakan sebagaimana mestinya.

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Design And Build An Early Warning System For Health Conditions In Climbers Based On Fuzzy Logic

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Abstract

Mountain climbing is currently being popular with the public, both young people and adults. However, there are still many people who are indifferent to the physiological conditions and environmental conditions that exist on the climb. This study aims to combine these two factors, namely physiological factors and environmental factors as an effort to minimize the occurrence of accidents in climbing activities. Physiological factors, namely oxygen saturation and heart rate, are combined with environmental factors of air pressure, which will later be processed with *fuzzy logic* consisting of 27 rule bases. The test results on the sensor showed high accuracy with an average value of 98.21% for SpO2, 98.01% for heart rate, and 99.10% for air pressure. At the time of the air pressure value of <750 hPa the system is also capable of giving an alarm as a warning. Fuzzy logic testing is quite effective in determining a climber's health status, where the system consistently assigns a "Normal" status at low altitudes, changes to "Alert" when the air pressure begins to decrease, until it reaches a "Danger" status in extreme conditions. This proves that the system is able to provide an early warning on the condition of a climber.

Keywords

ESP32; MAX30102; BMP280; Fuzzy Logic; Climber Health Monitoring

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- Cited By
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Refbacs

- There are currently no refbacs.

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