

# Communication with Patients in a Coma or Vegetative State using BCI

Dahiphale Krishna, Yashraj Gavhane, Nagare Aditya

Department of Computer Technology

Amrutvahini College of Polytechnic, Sangamner, Maharashtra, India

**Abstract:** *This project explores the use of Brain-computer Interface (BCI) technology to enable communication with patients in a coma or vegetative state (VS). By analyzing neural signals through non-invasive methods like electroencephalography (EEG), BCIs can detect signs of cognitive awareness, even when motor functions are impaired. The goal is to develop a reliable system that allows patients to communicate basic intentions, improving diagnosis, care decisions, and patient autonomy. Ethical concerns around consent, accuracy, and quality of life will also be addressed.*

**Keywords:** Brain Computer Interfacing (BCI), Information and Communication Technologies (ICT), Brain wave sensor, Receivers/Decoders