(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :29/05/2020

(21) Application No.202041022535 A

(43) Publication Date : 12/06/2020

(54) Title of the invention : DEEP LEARNING APPROACH FOR ACTIVITY CLASSIFICATION IN WEARABLE DEVICES

(51) International classification	:G06N 3/08	(71)**Name of Applicant :** 1)**Mr. K.Baskar** Address of Applicant :Assistant Professor, Department of ECE Pavai College of Technology NH-44, Pachal, Paavai Nagar, Namakkal-637018 Tamil Nadu India 2)**Ms. M.Sahaya Sheela** 3)**Dr. K.Selvi** 4)**Mr. M.Muthuraja** 5)**Dr.B.Muralibabu** 6)**Dr.K.R.Kavitha** 7)**Dr.J.Sundararajan** (72)**Name of Inventor :** 1)**Mr. K.Baskar** 2)**Ms. M.Sahaya Sheela** 3)**Dr. K.Selvi** 4)**Mr. M.Muthuraja** 5)**Dr.B.Muralibabu** 6)**Dr.K.R.Kavitha** 7)**Dr.J.Sundararajan**
(31) Priority Document No	:NA	
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(86) International Application No	:NA	
Filing Date	:NA	
(87) International Publication No	: NA	
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :

Deep learning is becoming popular because of its flexibility, no manual work, and precision data in learning. Artificial intelligence is applied in wearable devices using deep learning methods. Deep learning is one of the portions of machine learning, which uses artificial neural networks as one of the main tools. This deep learning is applied in activity classification. Activity classification is a field of study to identify the specific movement or action of a person based on sensor data such as accelerometers, gyroscopes, thermostats etc. By converging deep learning (DL), Internet-of-things (IoT), and wearable technologies in devices, various applications are influenced. The growth of mobile networks entitled to the evolution of wearable technology. Wearable technology is one of the classifications of the Internet of things in various fields, which uses epidermal electronics. The wearable data is collected, analyzed, and recognized as spatial/temporal patterns. A deep learning approach optimized for low-power devices, which uses a spectrogram of the input data. The spectrogram is feed into a deep learning module for pooling and convolution and then given into classifier. GPS, Smartphone, Wi-fi plays the role of communicating with the cloud and PC. To train the model and accelerate the model, GPU is used with the MATLAB.

No. of Pages : 20 No. of Claims : 8