

## Project 2:

**Project Name:** Living Intelligently by Recognising Activities

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**Status:** On going.

**Project Abstract:** Activity recognition in ambient environment helps in energy estimation and consumption pattern, personalized assistance based on activities, patient activity monitoring, daily activity monitoring, elderly assistance based on activities and fall detection of patient or elderly people. Injuries caused due to Fall includes body damages, fractures, connective tissue damages which further results in abnormal walking pattern and post-event psychological effects, reduce independence and confidence of the affected party. Due to seriousness of the problems and severity, it is very important to have safety and technological assistance development for elderly and sick people by developing automatic fall detection systems and by the development of health-enabling technologies. This project envisages an intelligent activity recognition and fall detection system for ambient environment which will work in integrated environment by involving all stakeholders such as family members, hospitals and affected person in the time of need. The challenges in front of the project are development of robust, and accurate intelligent system for activity monitoring and classification which works in real time with high reliability without compromising on privacy, independence and quality of life.

Algorithm	Training Time	Testing Time	Accuracy/Score	Precision	Recall
Logistic Regression	1.75s	4.01ms	0.9180	0.9201	0.9117
SVM	3.28s	1.44s	0.9703	0.9755	0.9754
ELM	641ms	18ms	0.3754	0.4026	0.3025
Naive Bayes	108ms	92ms	0.8529	0.8242	0.7992
KNN	188ms	5.71s	0.9816 0.8595(kaggle submission results)	0.9806	0.9805

\* Above results were calculated on [Kaggle Dataset](#) (training [75:25 split]) without any preprocessing