**LITERATURE SURVEY**

* 1. **Theory associated with Problem Area**

Literature and research on related work has given us several techniques useable for GAIT detection within and outside of the domain of this research. This survey focuses mainly on model free gait recognition approach, dimensionality reduction of extracted features and classification on the basis of gender.

* 1. **Existing System and Solutions**

Gait is a potential behavioural feature and many allied studies have demonstrated that it has a rich potential as a biometric for recognition. The development of computer vision techniques has also assured that vision based automatic gait analysis can be gradually achieved. The combination of a background subtraction procedure and a simple correspondence method is used to segment and track spatial silhouettes of a walking figure. Simple feature selection and parametric eigen space representation reduce the computational cost significantly during training and recognition. A large number of experimental results have demonstrated the validity of the proposed algorithm. Although accomplished under some simplified assumptions like previous work, this work has been proven to be an encouraging progress to gait-based human identification.

* 1. **Research findings for existing literature:**

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| **S.No.** | **Author Name** | **Paper** | **Findings from the paper** | **Citation** |
| 1. |  | Vision based GAIT recognition - A Survey | Feature extraction approaches in model free gait recognition. |  |
| 2. | Hong Shao, Yiyun Wang, Yang Wang, and Weihao Hu | A Pre-processing Method for Gait Recognition | Various pre processing techniques for gait recognition for example background subtraction of gait images, gait image background modelling. |  |
| 3. | Liang Wang, Tieniu Tan, Senior Member, IEEE, Huazhong Ning, and Weiming Hu | Silhouette Analysis-Based Gait Recognition  for Human Identification | Automatic gait recognition  method based upon spatiotemporal silhouette analysis  measured during walking. |  |
| 4. | Ait O. Lishani, Larbi Boubchir, Emad Khalifa, Ahmed Bouridane | Human gait recognition based on Haralick features | Supervised feature extraction approach that is capable of selecting distinctive features for the recognition of human gait under clothing and carrying conditions, thus improving the recognition performances. The principle of the suggested approach is based on the Haralick features extracted from gait energy image (GEI). |  |
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