

Real Time Person Identification using GAIT Energy Image

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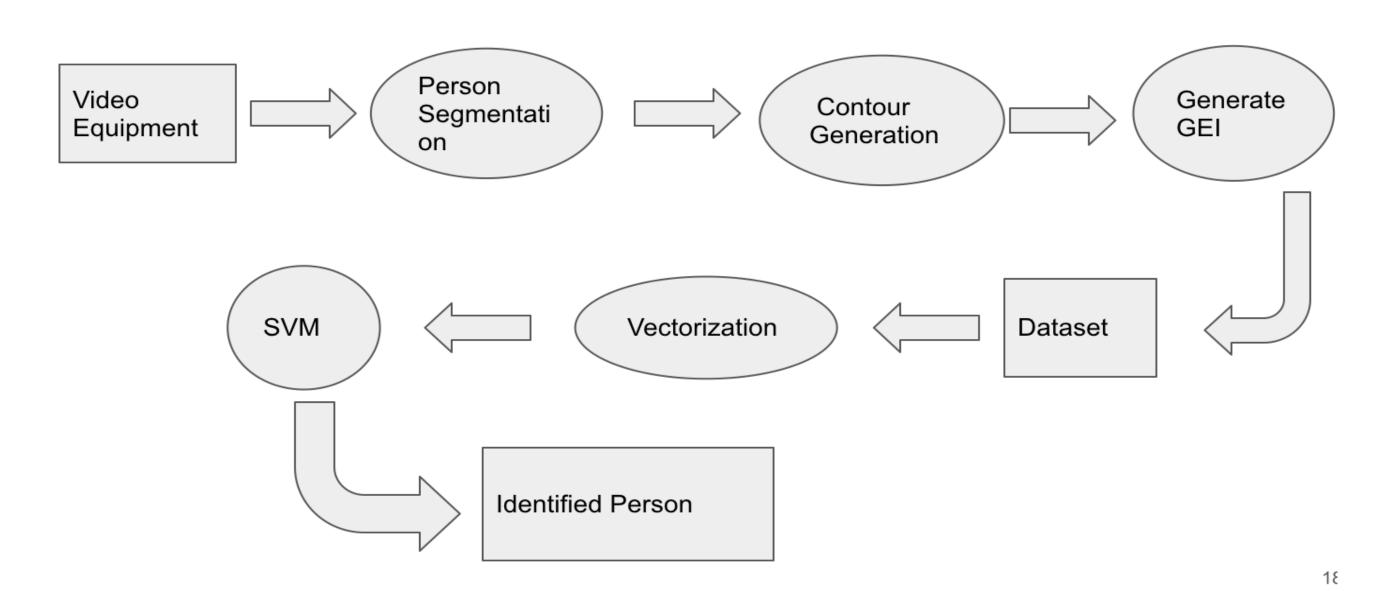


OBJECTIVE

The goal of the project is to locate a person-of-interest based on specific set of soft biometric attributes from a surveillance video without prior registration. The project will integrate and minimize semantic gap between human descriptions and soft biometric traits. Moreover this project aims at extracting soft biometric features such as GAIT from an input image or a video frame. Then it uses these features to locate a matching individual in the video stream based on such attributes.

PROJECT STRUCTURE/LAYOUT [COMPONENTS]

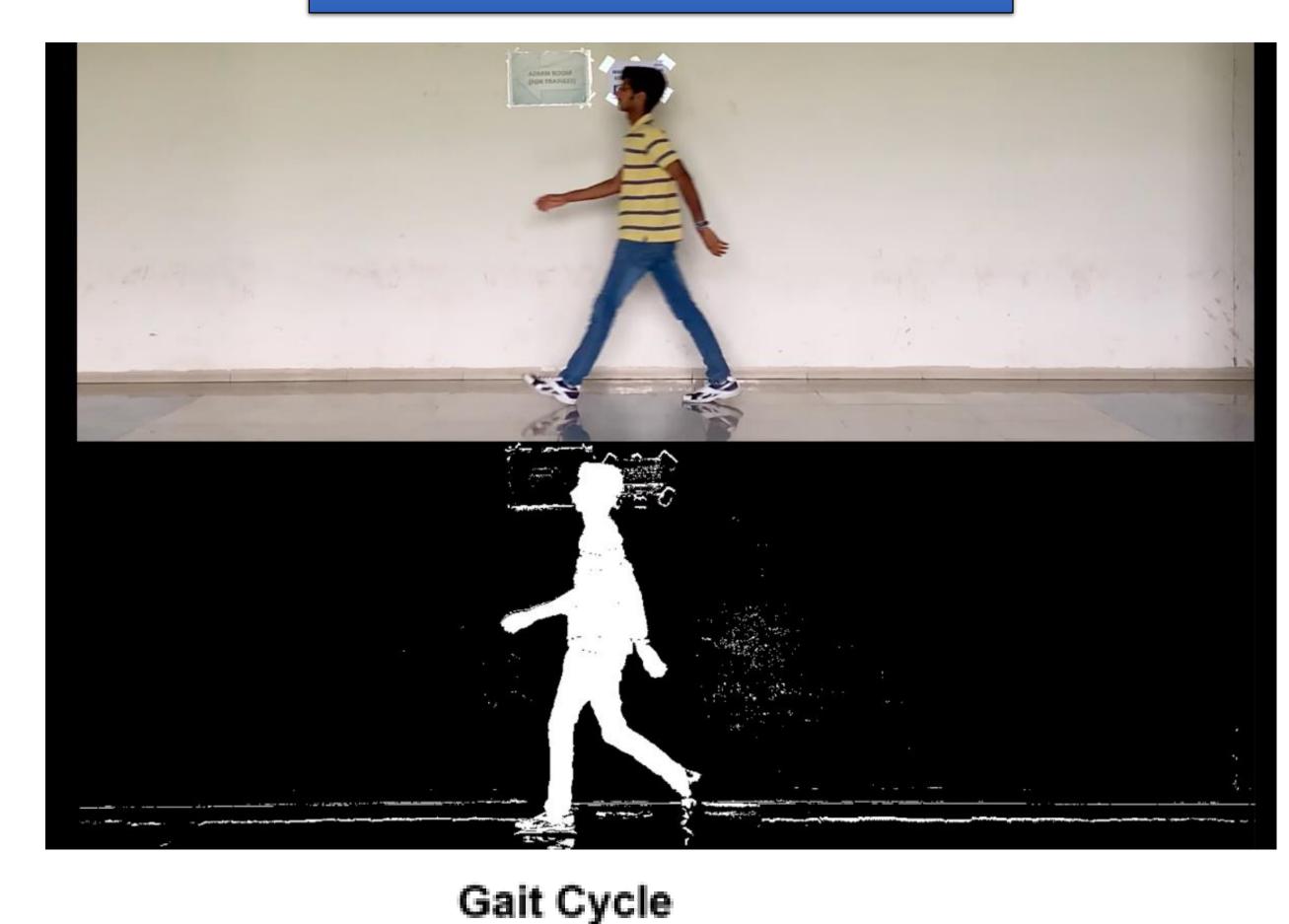
System Design

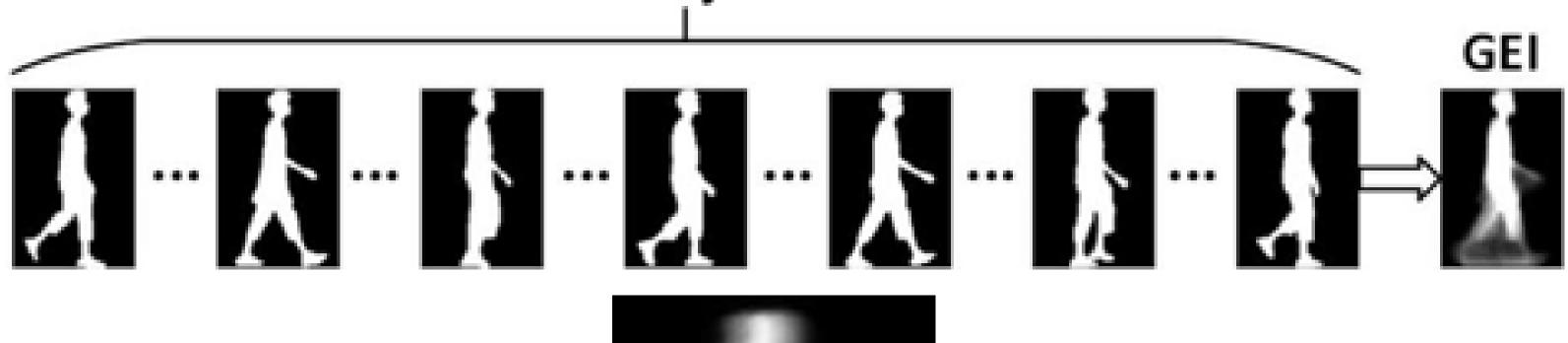


REAL TIME APPLICATIONS

- Person Identification / Re-Identification
 (tracking) using GAIT Attributes
- •Clinical Analysis to improve the management of children with cerebral palsy (there is good evidence to extend its use to patients with various upper motor neuron diseases, and to lower limb amputation and traumatic brain injuries.)
- •GAIT Analysis to distinguish two types of identical disease

RESULT SNAPSHOTS







CONCLUSIONS

Based on the results from our project, we observed that we can re-identify the person from the surveillance video if already have the recorded gait of the person in the database. This can be used in automatic attendance system for any organization without any direct contact to any physical device. This system can be used to prevent unauthorized access in any highly secured laboratory or institute. As the surveillance video can be of very less resolution, this can be very accurate approach for the same.

REFERENCES

Casia-B Dataset and SOTON Dataset.

References:

- [1] Soft Biometrics for Surveillance: An Overview D.A. Reid1, S. Samangooei1, C. Chen2, M.S. Nixon1 and A. Ross2G. Agam, S. Argamon, O. Frieder, D. Grossman 2013
- [2] Gait-based Person-Verification System for Forensics Haruyuki Iwama, Daigo Muramatsu, Yasushi Makihara, and Yasushi Yagi The Institute of Scientific and Industrial Research, Osaka University 2012