FACULTY
OF INFORMATION
TECHNOLOGY
CTU IN PRAGUE

ASSIGNMENT OF MASTER'S THESIS

Title:	People detection, tracking and biometric data extraction using a single camera for retail usage
Student:	Bc. Lukáš Brchl
Supervisor:	doc. RNDr. Ing. Marcel Jiřina, Ph.D.
Study Programme:	Informatics
Study Branch:	Knowledge Engineering
Department:	Department of Applied Mathematics
Validity:	Until the end of summer semester 2019/20

Instructions

The work aims to use computer vision techniques to create a framework that could analyze video sequences to extract data about people. The proposed solution must be robust regarding people detection and tracking and to obtain soft biometric statistics. The deep-learning approaches might be used. The output of the framework analysis should be data of persons' trajectories. The data could be visualized to provide an overall understanding of persons' behavior, e.g., to optimize marketing activities of the retail store.

1) Familiarize yourself with the task of people detection, tracking, and extraction of human characteristics (soft biometrics) using a single RGB camera in the retail environment.
2) Propose methods and algorithms that can efficiently solve the task mentioned above.
3) Implement the proposed methods and algorithms using appropriate programming language and tools.
4) Verify implemented methods on real data, evaluate their accuracy and suggest further improvements.

References

Will be provided by the supervisor.

Ing. Karel Klouda, Ph.D.
Head of Department

doc. RNDr. Ing. Marcel Jiřina, Ph.D.
Dean

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