Master thesis proposal: Text and image analysis

Annika Tillander

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Background

The project "In the Neighborhood, Sustainable Lifestyle and Health among Adolescents (NESLA)" is part of an initiative "School first" started by Västerås city to all municipal organizations contributing to more children and young people leaving school with approved grades.

Research shows that there is a connection between good school performance and factors such as physical activity, good eating habits, regular sleeping habits, good mental health and parental support. Studies also show that creative activities outside school can promote young people's involvement and performance in school and create self-confidence and social relationships, which can reduce the risk of mental illness.

In the NESLA project we therefore want to highlight leisure time as an important context for young people's development and study results. The participants of the study used the Stanford Discovery Tool app on their phones to take photographs and record audio narratives of aspects of their leisure time.

For another project part, the possibility for physical activity in areas of low socioeconomic status (SES) was investigated, see [1],[2].

Data

Small data consisting of photos, text and label with three classes: Happy, Sad, Both.

Aim

Identification of single objects in picture such as e.g. ping-pong table, text mining to identify keywords and estimate the association between objects, keywords and label.

Prerequisites

Good knowledge of Machine learning and Statistics
Good programming skills
Knowledge of image processing
Knowledge of text mining

Research Team

Annika Tillander, STIMA, Linköping University
Professor Katarina Bälter, School of Health, Care and Social Welfare; Division of Public Health Sciences, Mälardalen University

Contact and application

Annika Tillander
Mail: annika.tillander@liu.se

References

[1] Katarina Bälter, Tove Rydenstam, Terence Fell, Abby C. King, and Benti Geleta Buli. Data from an our voice citizen science initiative in neighborhoods with low socioeconomic status in sweden : A proof of concept for collecting complex data. *Data in Brief*, 33, 2020.

[2] Tove Rydenstam, Terence Fell, Benti Geleta Buli, Abby C King, and Katarina Bälter. Using citizen science to understand the prerequisites for physical activity among adolescents in low socioeconomic status neighborhoods - the nesla study. *Health Place*, 65:102387, 2020.