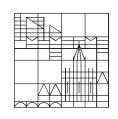
Universität Konstanz



CNN to Evaluate Social Distancing Measures

Security Street Cameras around the world



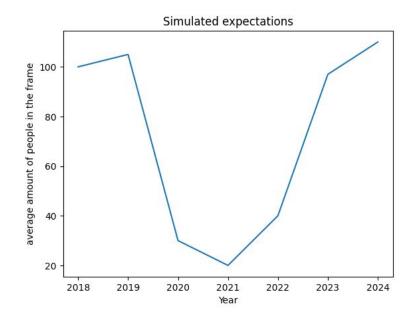
Maximilian Weiland, Nina Geyer, Adrian Ruhe, Raphaela Keßler Konstanz, 02.07.24

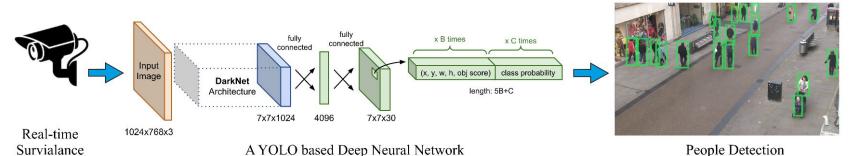
Content

- 1. Research question & methods
- 2. Work plan & challenges
- 3. Preliminary results
- 4. Conclusion & critique

1. Research question & methods

- How effective are social distancing measures (during COVID)?
- CNN model to detect persons in an image
- Use average number of people (per week) to evaluate effectiveness





2. Work plan & challenges

- Size of training data (size up to 50GB);
- find suitable pre-post covid data set

- Find right architecture
- limited computational power.

Measurement strategy:

- Counting
- statistical method? time period?

Find Data

Build model

Analysis



Data Preprocessing

 Filter for relevant images with people, preferably CCTV-like

- **Model evaluation**
- self-annotated data
- Verification method for unseen surveillance data





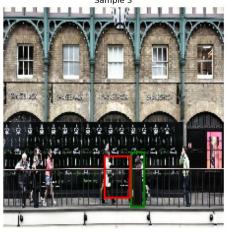




3. Preliminary Results







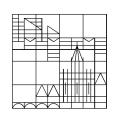


4. Conclusion & critique

- Ethical considerations of using surveillance technology
- Hard to reach the accuracy of pretrained models like the YOLO model
- Distance measures and person identification hard to implement
- Research Design needs to be clarified

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Thank You!

Questions or Advices?

Every time I see a security camera

