Probabilistic Scene Understanding using Virtual Reality and Markov Logic Networks

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- ▶ perception component
  - ▶ detect objects
  - ▶ analyse objects
- ▶ reasoning component
  - ▶ identify/classify objects based on their visual cues
  - ▶ needs to be trained
  - ▶ needs a lot of training data at hand

Creation of Training Data

time and resource intensive:
- ▶ manually creating scenarios and images
- ▶ no groundtruth

→ use synthetic images

Modern game engines can render photorealistic images in realtime.

Can synthetic images be used as training data?

Unreal Images

used Unreal Engine to create images
- how?

robosherlock as perception framework
- what does it annotate?
- get groundtruth
- databases

Markov Logic Networks

what are they?
advantages for object classification

Experiments

baseline: PR2 paper
show results...

Conclusion

it just works