

KI Gruppenprojekt

Erster Datensatz

- Fruit Quality Dataset
- CNN Ansatz
- Fehlerhafte Labels

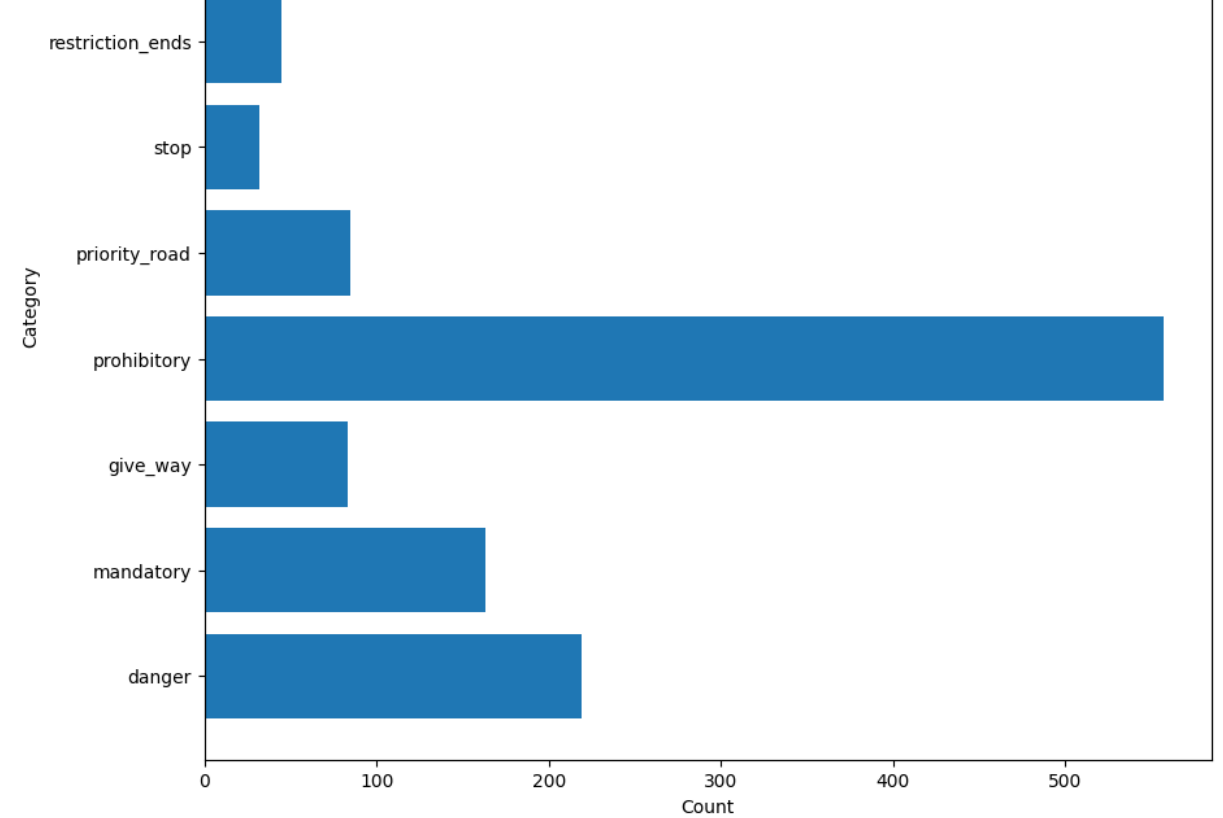
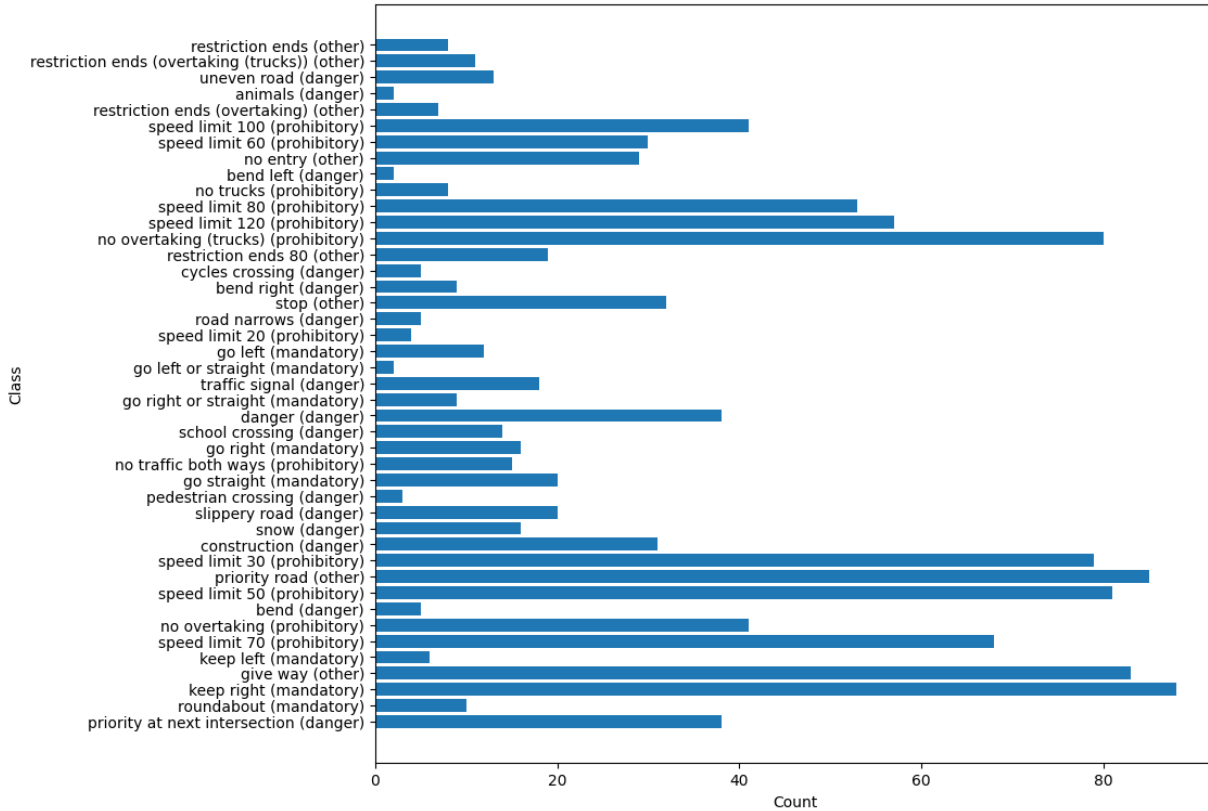


Neuer Datensatz + Ziel

- German Traffic Sign Detection Benchmark Datensatz



Data Distribution



HOG-SVM Lokalisator

- Histogram of Oriented Gradients
- Sliding Window Object Detector
- Support Vector Machine (SVM)



CNN Lokalisator

- Bounding-Box-Regression
- ResNet-50 (Feature-Extractor)
- Region Proposal Network (RPN)

CNN Recognition

- Mehrere Convolutional Layers (Conv2D)
- ReLU Aktivierung
- Kernel-Regularisierung zur Merkmalsextraktion
- Batch-Normalisierung
- Max-Pooling-Schichten



Ergebnisse

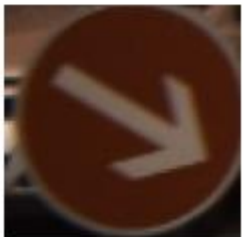
HOG+SVM



CNN



HOG-SVM



- mandatory
- keep right - 0.87

- no_entry
- no entry - 0.98

- prohibitory
- keep right - 0.87

CNN

- keep right - 0.97
- no entry - 0.99
- speed limit 70 - 0.99
- speed limit 70 - 0.99

