Safety First

Improving Workplace Safety with Hard Hat Detection

Team Member

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Description

Workplace safety is very important but often overlooked. Most important way to keep workers safe is by wearing a hard hat. This project will utilize Convolution Neural Net and YOLO to help detect whether workers are wearing a hard hat or not.

Machine Learning Topics Used:

- Convolution Neural Net
- YOLO

Expected Outcome

A trained model that is able to detect whether workers are wearing a hard hat or not by implementing YOLO using PyTorch. We are hoping to utilize the model to bring more awareness to workplace safety.

Plan

Timeline

- Sunday 7/6 Research
- Sunday 7/13 Design and Prototyping
- Sunday 7/20 Data collection and preparation
- Thursday 7/24 Presentation

Task Decomposition

- [ ] Find data set for hard hats - Lennard
  https://public.roboflow.com/object-detection/hard-hat-workers
- [ ] Research/experimenting with YOLO

- [ ] Build training framework - Lennard
- [ ] Create PoC network architecture - Stanley
- [ ] Tune model, update architecture - 50/50
- [ ] Data Collection, prepare for presentation - 50/50