

Handgun Image Classification

By: Anita Camlic

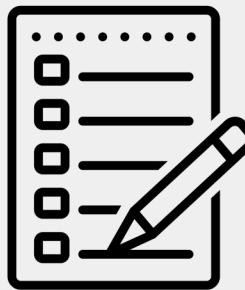


About Me

- Buffalo, New York 
- Computer Vision 
- AI to help keep people safe 



Agenda



Task at Hand & Motivation

Data & Methods

Modeling & Applications

Drawbacks & Next Steps

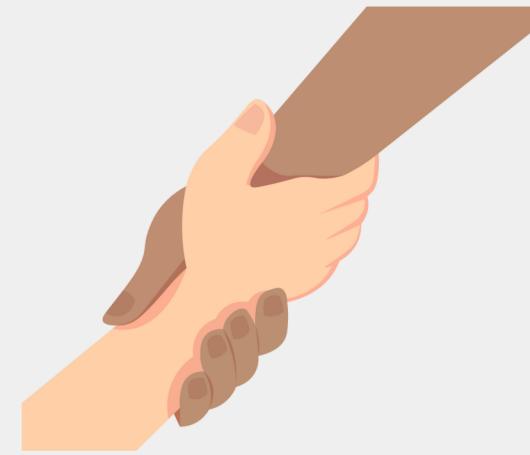
Issue at Hand & Motivation

Statistics

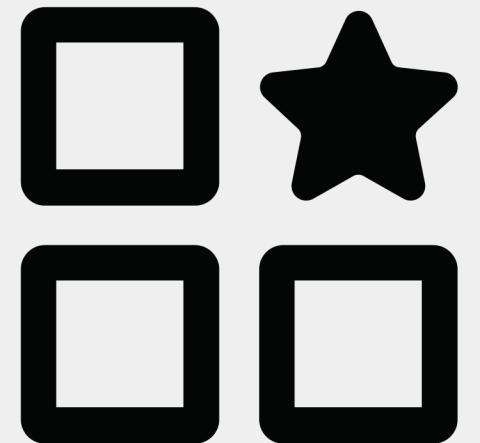
- Gun deaths rate increased 33% since 2011
- Gun homicide rate increased 70% since 2011.
- 704 mass shootings in 2022



time sensitive

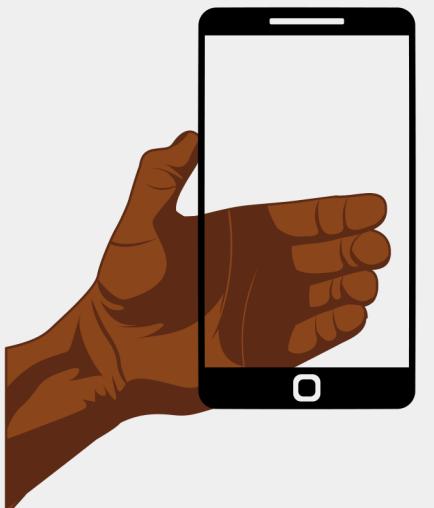
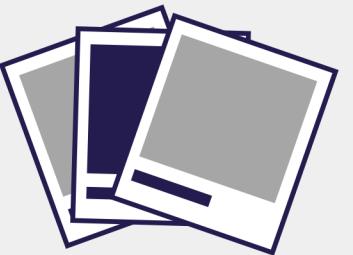


get potential victims
faster help

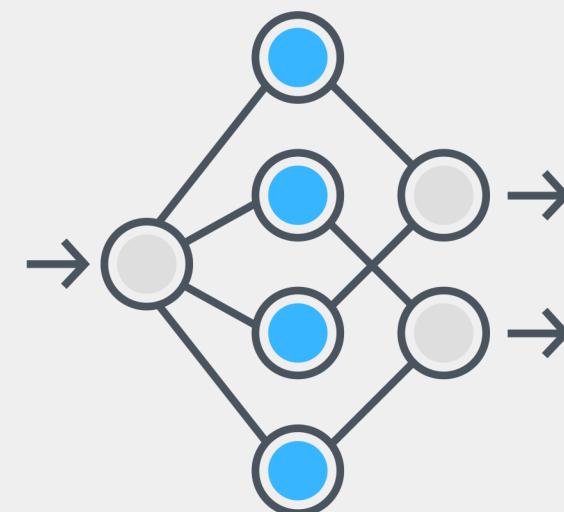
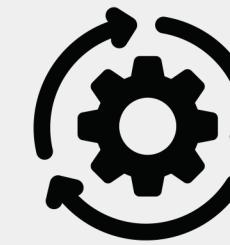


unique solution

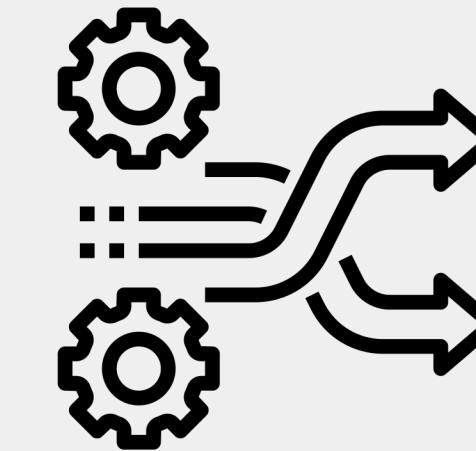
Data



Methods



Neural Networks

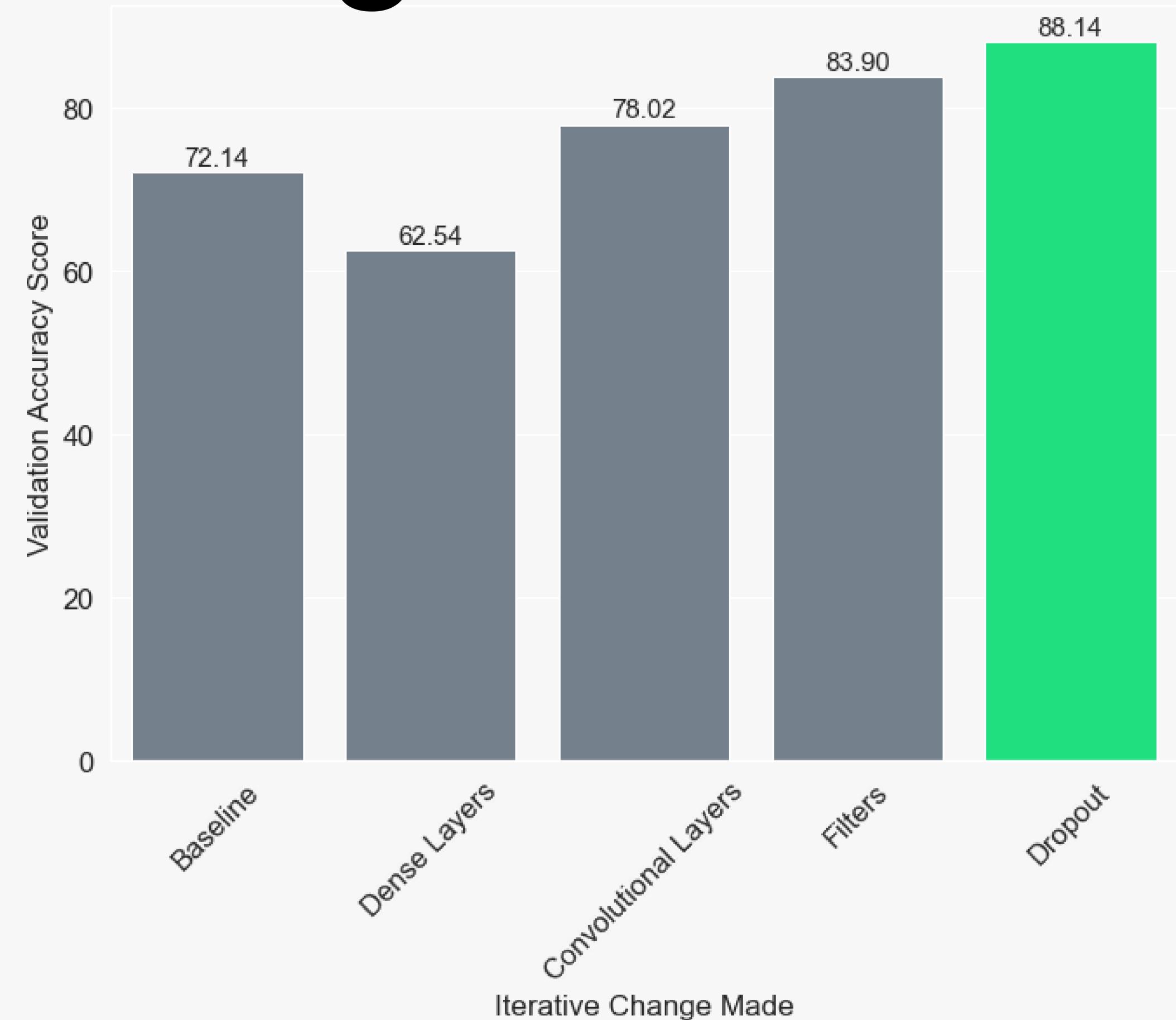


Iterative Modeling

Iterative Modeling

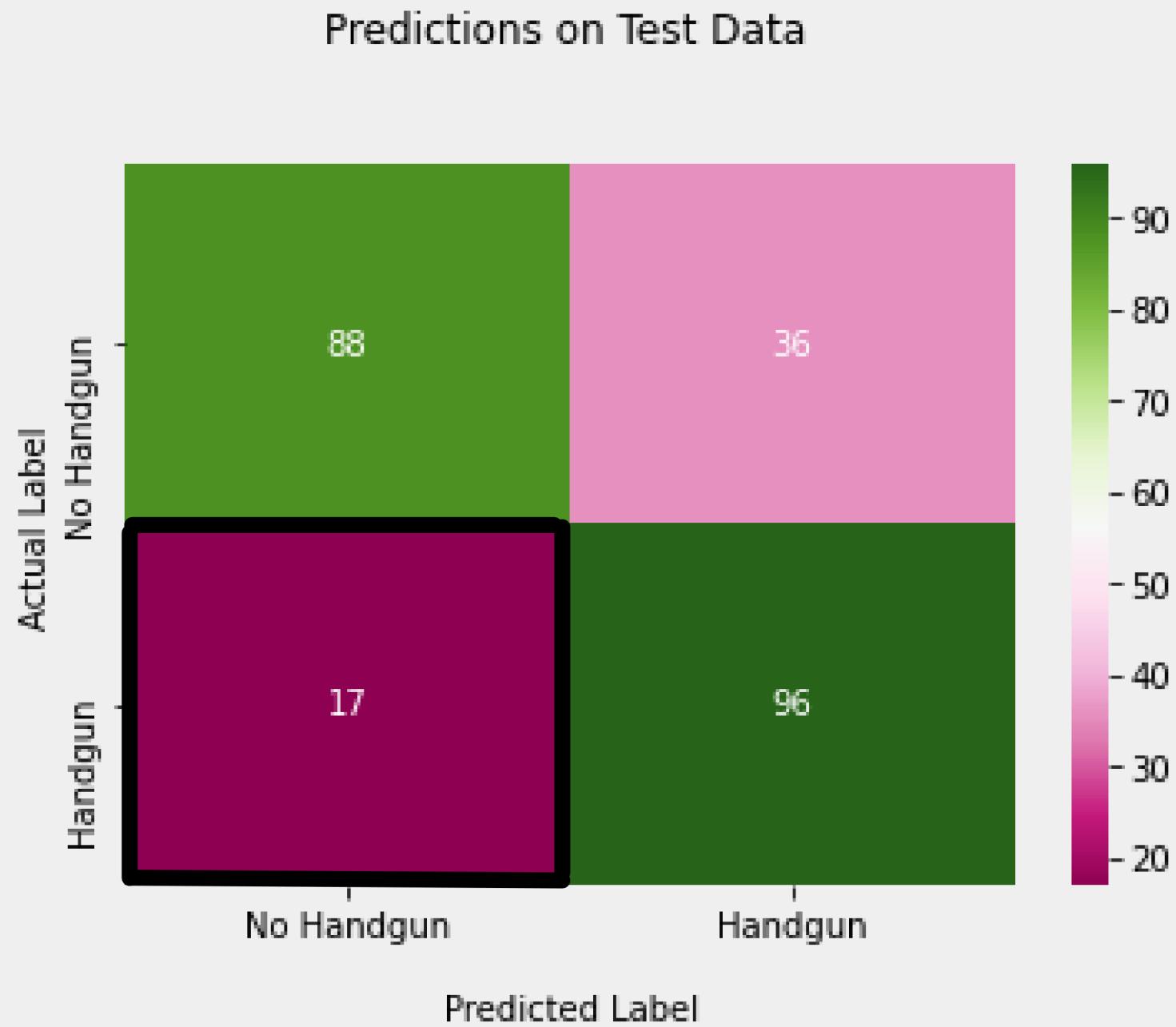
Changes that improved Model Accuracy :

- **Convolutional Layers**
- **Greater Number of Filters**
- **Regularization**

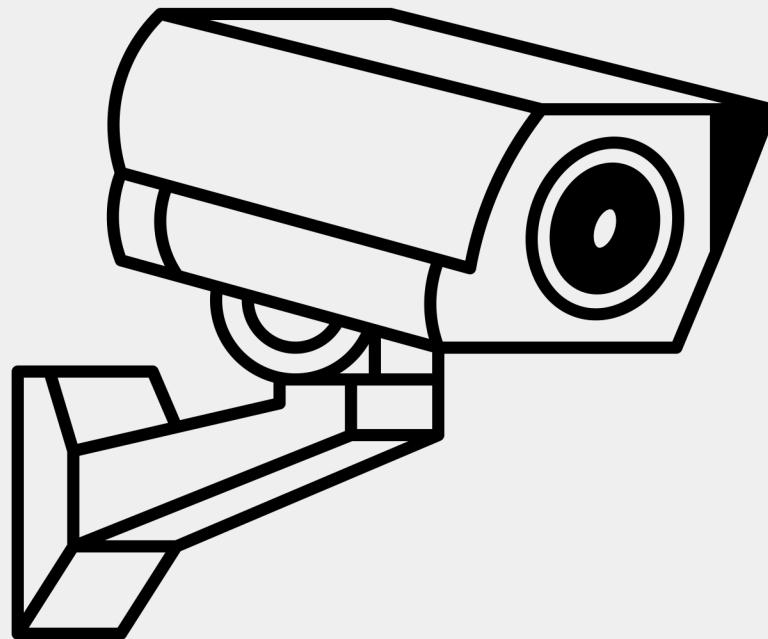


Final Model Results

Test Accuracy: 78%



Application of Model



Surveillance Data



Call Police



Alarm



Close Down Area

Correctly Identified



PHONES



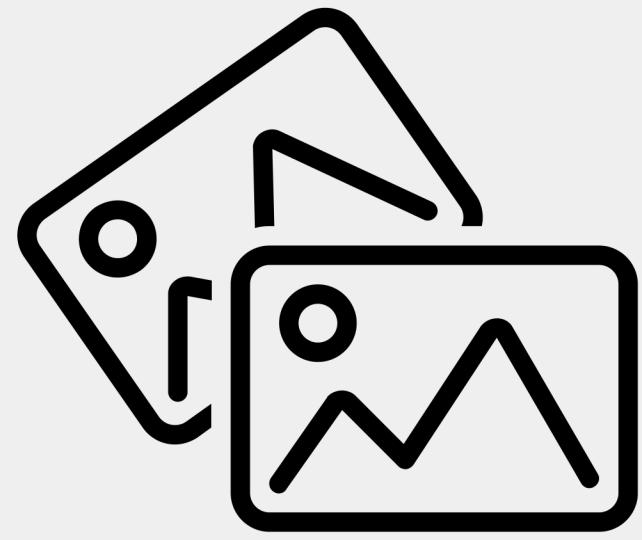
Incorrectly Identified



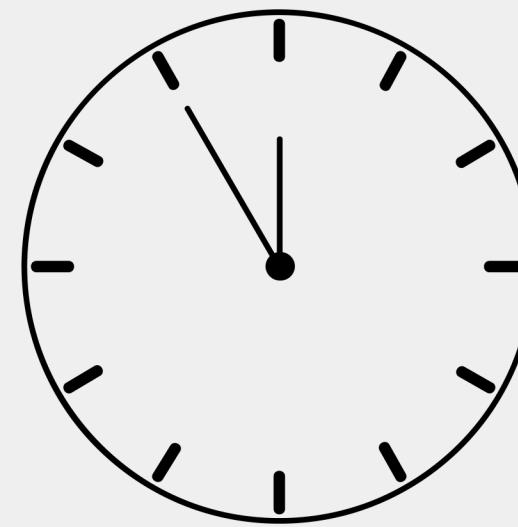
HANDGUNS



Drawbacks

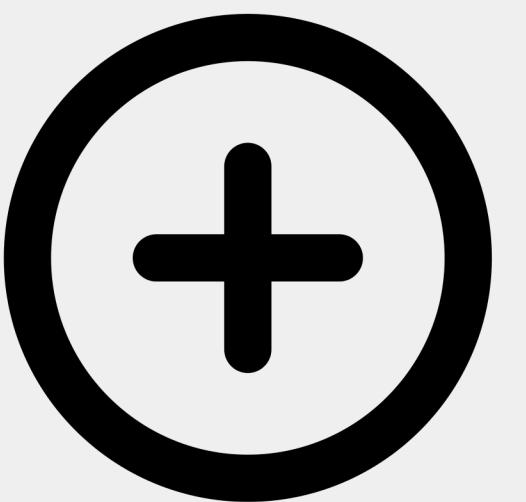


Data Availability



Time Limitations

Next Steps >>



Expand Data



Object Detection



Multiclass
Classification

Thank You

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