

# Detecting dangerous items in X-Ray luggage scans

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# + Enhancing travel security is crucial

Security when travelling has always been a major concern for both commercial and private aviation. X-Ray scans have played an important role in securing passenger safety, and the use of machine learning in this field is growing rapidly



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Can you spot the knife?



# Dangerous items

The model is trained to recognize the presence of eight different classes of dangerous (or potentially dangerous) objects:

- Cameras
- Cellphones
- General electronic devices
- Knives
- Laptops
- Lighters
- Powerbanks
- Scissors



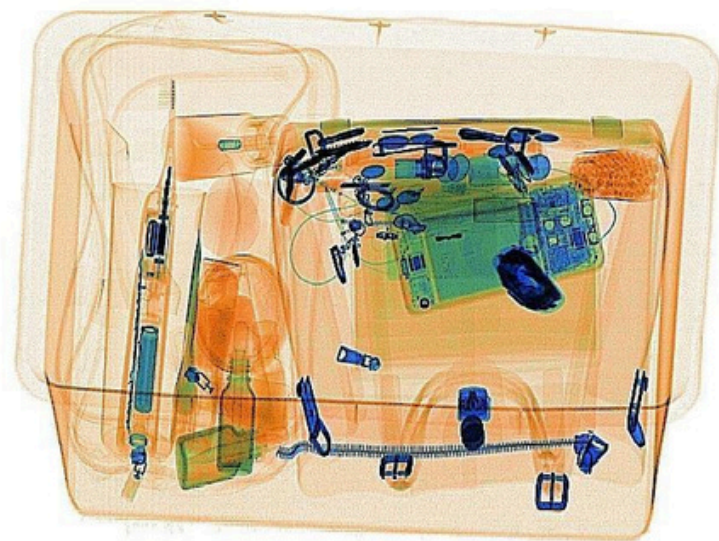


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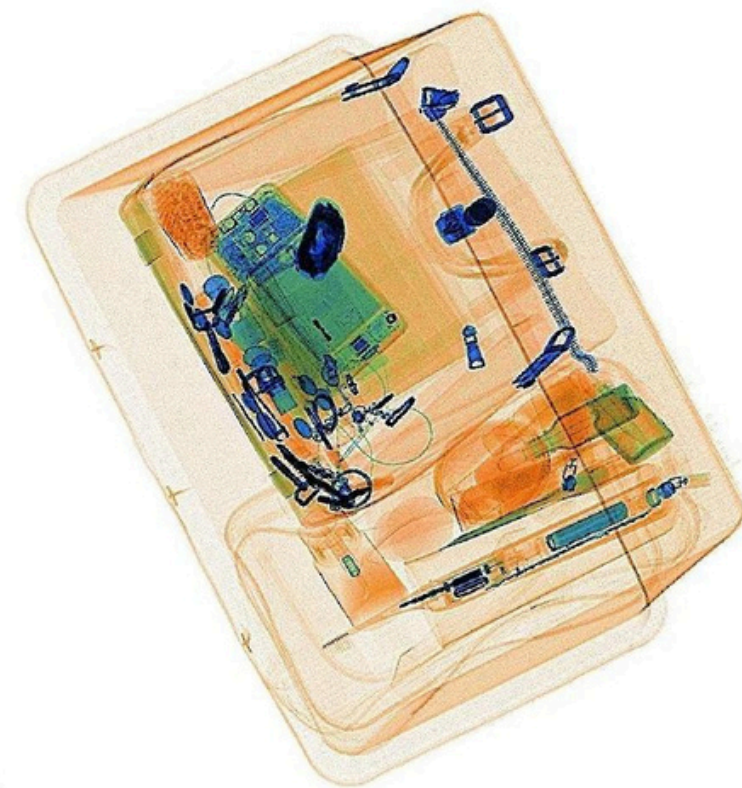
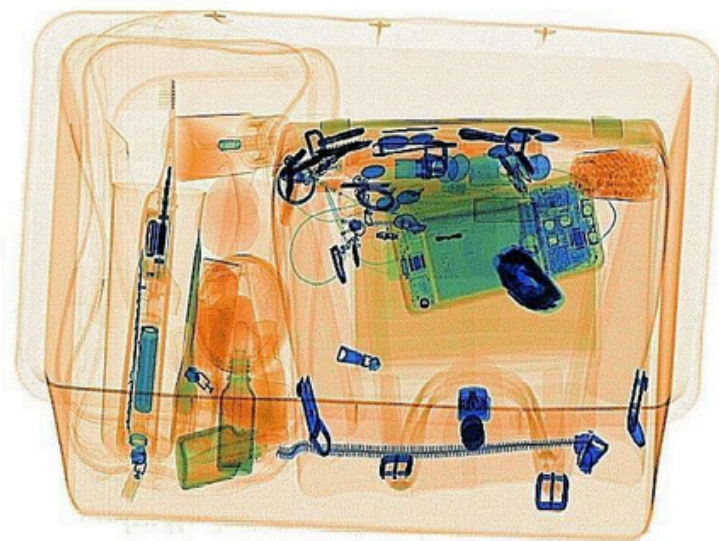
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conv1 -> batchnorm -> tanh -> maxpool2d -> conv2 -> batchnorm -> tanh -> maxpool2d ->  
linear -> tanh -> linear

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SGD is used over Cross Entropy Loss in conjunction with L2 regularization



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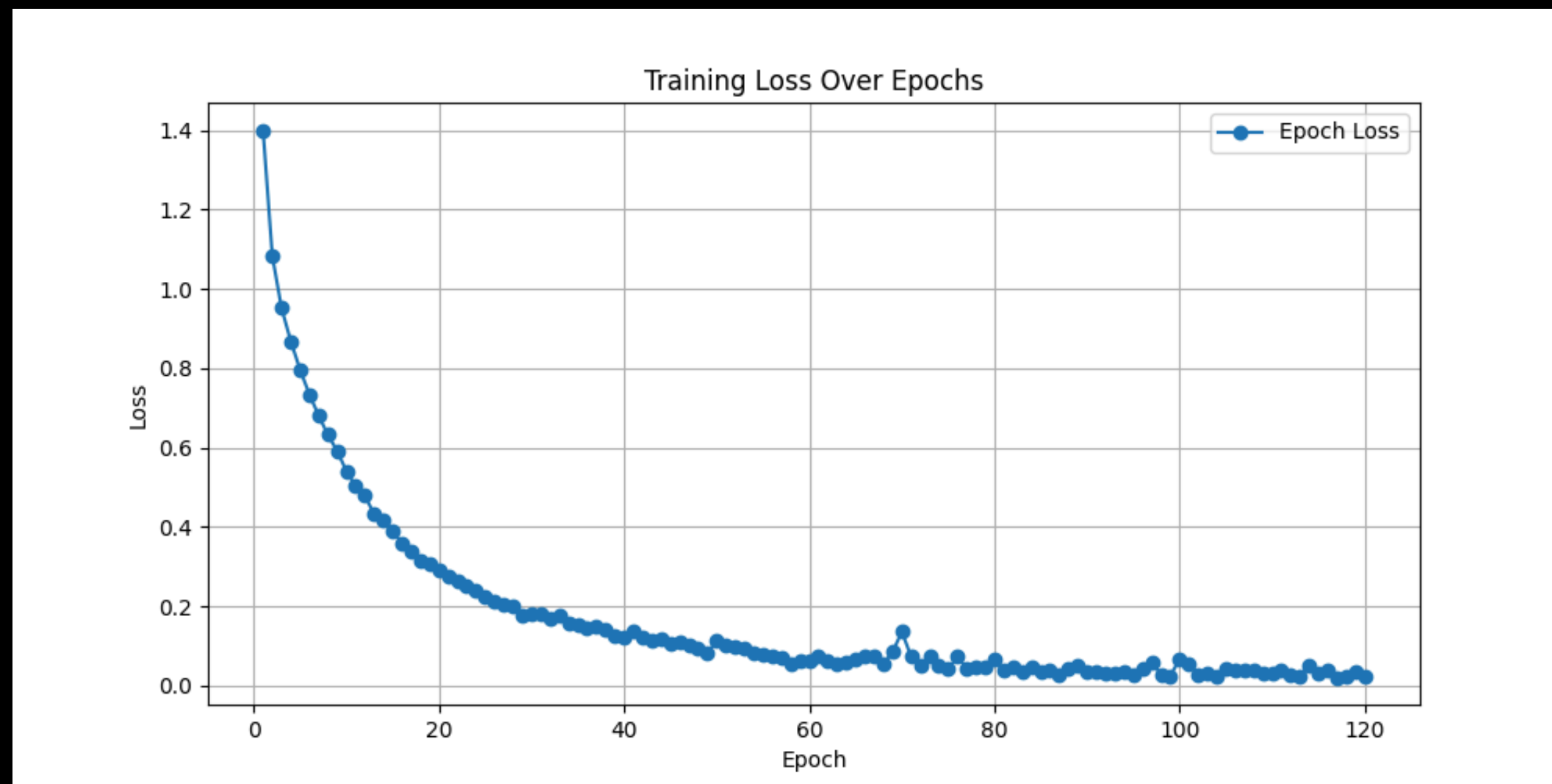
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**Project code at**

[https://github.com/ricvigi/ailab\\_project\\_private](https://github.com/ricvigi/ailab_project_private)