

Other Usages of Roboflow Medical Image Datasets

#1 Pneumonia Detection - Chest X-rays: Classification

<https://universe.roboflow.com/mohamed-traore-2ekkp/chest-x-rays-qjmia>

The dataset comprises over 5,000 chest X-ray images, classified into two categories: "PNEUMONIA" and "NORMAL." It includes three versions, with Version 1 applying only "Auto-Orient" for image orientation, while Version 2 adds resizing to 640x640 pixels. Version 3 incorporates further augmentations, such as shear transformations, brightness adjustments, and saturation variations, thereby enhancing the dataset for training. The images were sourced from pediatric patients at Guangzhou Women and Children's Medical Center and underwent quality control by expert physicians. The classification model achieved a notable validation accuracy of **98.1%**, benefiting from the comprehensive preprocessing and augmentation techniques applied to the dataset.

Citation:

```
@misc{
chest-x-rays-qjmia_dataset,
title = { Chest X-Rays Dataset },
type = { Open Source Dataset },
author = { Mohamed Traore },
howpublished = { \url{ https://universe.roboflow.com/mohamed-traore-2ekkp/chest-x-rays-qjmia } },
url = { https://universe.roboflow.com/mohamed-traore-2ekkp/chest-x-rays-qjmia },
journal = { Roboflow Universe },
publisher = { Roboflow },
year = { 2022 },
month = { nov },
note = { visited on 2025-07-09 },
}
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#2 Bone Fracture Detection: Object Detection

<https://universe.roboflow.com/fyp-l87nq/bone-fracture-detection-rkuqr>

mAP@50: 79.9%, Precision: 89.3%, Recall: 75.1%

Citation:

```
@misc{
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type = { Open Source Dataset },
author = { fyp },
howpublished = { \url{ https://universe.roboflow.com/fyp-l87nq/bone-fracture-detection-rkuqr } },
url = { https://universe.roboflow.com/fyp-l87nq/bone-fracture-detection-rkuqr },
journal = { Roboflow Universe },
}
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publisher = { Roboflow },
year = { 2023 },
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note = { visited on 2025-07-09 },
}
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#3 Tumour Detection: Object Detection

<https://universe.roboflow.com/z-kpjpg/test-fq8so>

mAP@50: 99.1%, Precision: 95.8%, Recall: 100.0%

Notes: Could be used to measure the size/danger of the tumour

Citation:

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@misc{
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type = { Open Source Dataset },
author = { z },
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url = { https://universe.roboflow.com/z-kpjpg/test-fq8so },
journal = { Roboflow Universe },
publisher = { Roboflow },
year = { 2024 },
month = { dec },
note = { visited on 2025-07-09 },
}
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#4 Dental Cavity/Caries/Calculus: Segmentation

<https://universe.roboflow.com/ai-in-dentistry/ai-in-dentistry-2>

mAP@50: 42.5%

Notes: could be improved - poor image dataset; very inconsistent

Citation:

```
@misc{
ai-in-dentistry-2_dataset,
title = { AI In Dentistry 2 Dataset },
type = { Open Source Dataset },
author = { AI In Dentistry },
howpublished = { \url{ https://universe.roboflow.com/ai-in-dentistry/ai-in-dentistry-2 } },
url = { https://universe.roboflow.com/ai-in-dentistry/ai-in-dentistry-2 },
journal = { Roboflow Universe },
}
```

publisher = { Roboflow },
year = { 2024 },
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Summary of Problems vs Algorithms:

Problem Type	Algorithms Used
Object Detection	YOLO, Faster R-CNN
Classification	ResNet, EfficientNet
Segmentation	U-Net, Mask R-CNN
Counting/Masurement	Keypoint, Regression
Anomaly Detection	Autoencoder, One-Class SVM