Data Selection

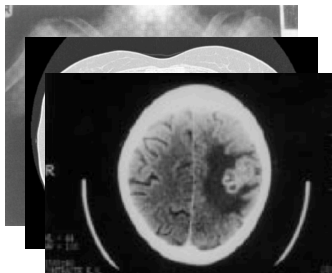**Metadata Creation**

Question Answer Generation

MedICaT

Image

Caption

Figure 2. CT scan of the brain showing an expansive lesion envolving the right temporal lobe.

GPT4 preprocess

```
{
    "id": 4,
    "image_type": "ct scan_brain",
    "image_path": "*.png",
    "caption": "Figure 2. CT scan of
the brain showing an expansive lesion
envolving the right temporal lobe.",
    "abnormality": "1",
    "condition": {
            "expansive lesion": "right
temporal lobe" }
},
...
{
    "id": 69867,
    "image_type": "x-ray_chest",
    "image_path": "*.png",
    "abnormality": "1",
    "condition": {
        "atelectasis": "N/A",
        "infiltration": "N/A",
        "pneumonia": "lower left"
    }
},
```

QA generation

Modality

Is this a **CT Scan**?   **Ans: yes**
Is this an **MRI**?   **Ans: no**

Organ

Does this show a **Brain**?   **Ans: yes**
Does this show an **Abdomen**? **Ans: no**

Abnormality

Does this CT scan show any abnormality of the brain?

Condition / Finding

Is an **expansive lesion** present in the given brain CT scan?   **Ans: yes**
Is **leptomeningeal and gyral calcification** present in the given brain CT scan?   **Ans: no**
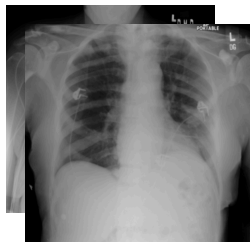
Position

In the given brain CT scan, is an expansive lesion present in the **right temporal lobe**?   **Ans: yes**
In the given brain CT scan, is an expansive lesion present in the **right thalamus**?   **Ans: no**

ChestX-ray14

Image

Label

Bounding box

atelectasis
infiltration
pneumonia
pneumonia [601, 595, 215, 180]
Original Image: [2450, 2839]

Positional reasoning