**About Model: -**

Detection Model is Multiclass Classification project and that have multiple cancer image

**Lung Cancer**

**Breast Cancer**

**Skin Cancer**

**Brin Tumor**

**Colon Cancer**

**Input Image**

**Detection Model**

**Why**

Most Research make on Binary Classification Model so make Different we Multiclass classification and after that make we add First layer that decide the cancer have and have Not.

**🔍 Suitable Datasets for Multi-Class Cancer Classification**

Ab problem ye hai ki ek hi dataset me sabhi cancers (lung, breast, skin, brain, colon, etc.) ka combined set bahut rare hota hai. Isliye tumhe multiple datasets combine karne padenge.

Main Part each cancer have Different type of image like HAM10000 , Breakhis and

Work Thease Cancer Type:

**1. Skin Cancer (HAM10000)**

* Kaggle par available.
* 7 classes (melanoma, basal cell carcinoma, nevus, etc.).
* High-quality dermoscopy images.

**2. Breast Cancer (BreakHis)**

* Microscopic images of breast tumors.
* 8 tumor classes (benign/malignant subtypes).

**3. Lung Cancer CT Dataset (LIDC-IDRI via TCIA)**

* CT scans with annotations.
* Tumor vs non-tumor + some subtypes.

**4. Brain Tumor Dataset (Kaggle / BRATS Challenge)**

* MRI images.
* Classes: Glioma, Meningioma, Pituitary tumor, and Normal.

**5. Colon Cancer Histology Dataset**

* Kaggle par available.
* Benign vs malignant colon tissue images.

**🛠 Possible Approach**

1. **Data Gathering**
   * Alag-alag datasets (skin, breast, brain, lung, colon) download karo.
   * Normalize image sizes (jaise 224x224 for ResNet / EfficientNet).
   * Labels ko harmonize karo → ek master CSV banao:

image\_path, label

dataset1/img1.jpg, skin\_cancer

dataset2/img5.png, breast\_cancer

dataset3/img12.jpg, brain\_tumor

**🧾 Top Brain Tumor Datasets Links**

1. **Brain Tumor MRI Dataset (Kaggle)**
   * Isme images hai jisme “glioma”, “meningioma”, “pituitary”, etc. classes hain. [Kaggle](https://www.kaggle.com/datasets/masoudnickparvar/brain-tumor-mri-dataset?utm_source=chatgpt.com)
   * ~ 1300+ images. [Kaggle](https://www.kaggle.com/datasets/masoudnickparvar/brain-tumor-mri-dataset?utm_source=chatgpt.com)
2. **Brain MRI Images for Brain Tumor Detection (Kaggle, Navoneel Chakrabarty)**
   * Simple dataset, MRI images + labels (tumor vs no tumor ya tumor type) for detection. [Kaggle](https://www.kaggle.com/datasets/navoneel/brain-mri-images-for-brain-tumor-detection?utm_source=chatgpt.com)
3. **Brain Tumor Classification (MRI) (Kaggle)**
   * Different classes like benign tumour, malignant tumour, pituitary tumour, etc. [Kaggle](https://www.kaggle.com/datasets/sartajbhuvaji/brain-tumor-classification-mri?utm_source=chatgpt.com)
4. **Brain Tumor MRI Scans (Four Classes) (Kaggle)**
   * Bahut saare scans (7023) with 4 classes. [Kaggle](https://www.kaggle.com/datasets/rm1000/brain-tumor-mri-scans?utm_source=chatgpt.com)
5. **BRATS (Multimodal Brain Tumor Segmentation Challenge)**
   * Agar future mein segmentation + classification dono karna hai, to BraTS dataset bohut useful ho ga. Ye multiple MRI modalities + segmentation masks deta hai. [Perelman School of Medicine+2The Cancer Imaging Archive (TCIA)+2](https://www.med.upenn.edu/cbica/brats2020/data.html?utm_source=chatgpt.com)
6. **BRISC: Annotated Dataset for Brain Tumor Segmentation and Classification**
   * Naya dataset hai, high-res, three major tumor types + non-tumor, aur label ache hain. [arXiv](https://arxiv.org/abs/2506.14318?utm_source=chatgpt.com)
7. **UCSF-PDGM (University of California San Francisco Preoperative Diffuse Glioma MRI)**
   * Histopathologically proven gliomas + MRI modalities + molecular data jaise MGMT etc.