**X-REPORTO**

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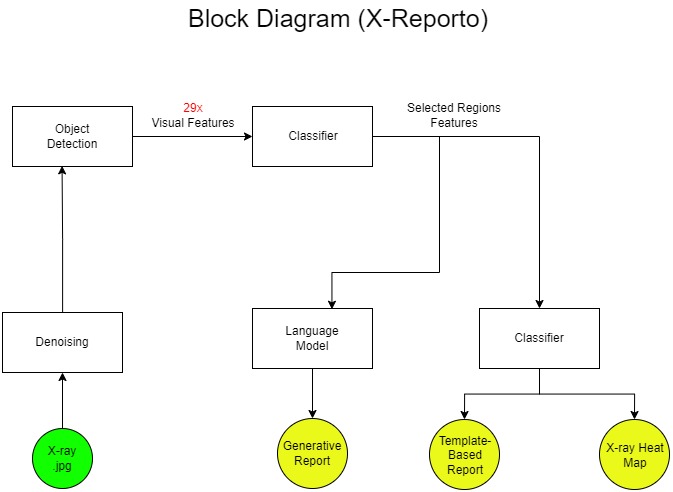
1. **Problem Statement**

Medical diagnosis & automatic report generation of patients’ chest X-rays by denoise image then detect anatomical regions and diseases in each region then writing full medical report using AI solutions.

1. **Motivation**

Reduce high cost of Radiologists’ time by speed up process of diagnosis and create reports of huge number of patients chest x-rays.

A lot of X-rays are pending in a queue where more severe cases have to be checked first.

1. **System Architecture**
2. **List of Deliverables**

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| **Module Name** | **Function** | **Input** | **Expected Output** | **% of used Libraries** |
| Denoising | Remove all possible Device Noises from X-rays while keeping relevant medical information | X-Ray Image | Filtered X-ray image | 50% |
| Region Detection | Detect 29 anatomical medical regions with corresponding visual features of each region | Filtered X-ray Image | 29 visual features along with bounding boxes of each region | 100% |
| Multi-Label Classifier | Detect abnormality in each region then detect diseases | 29 visual features of each region | Selected abnormal visual features of regions to generate report on it with possible diseases in each region | 100% |
| Report Generation | Create full reports using rule based & generative approaches | Selected abnormal visual features with labels | Full report | 50% |
| Integration | Provide tool that combines deployed AI models with interface | X-ray image | Full functionality offered above | 100% |