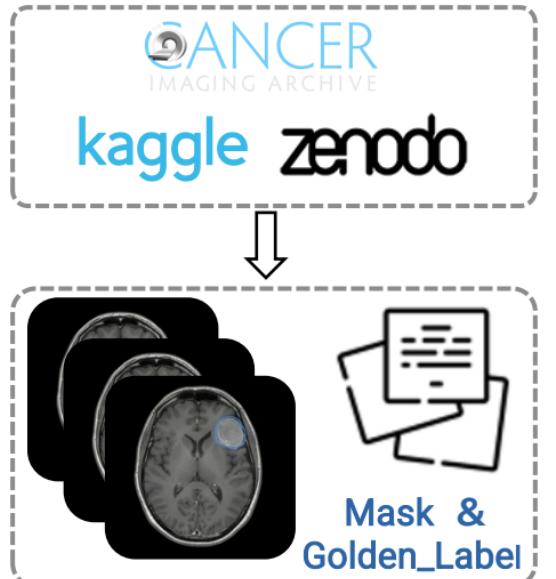


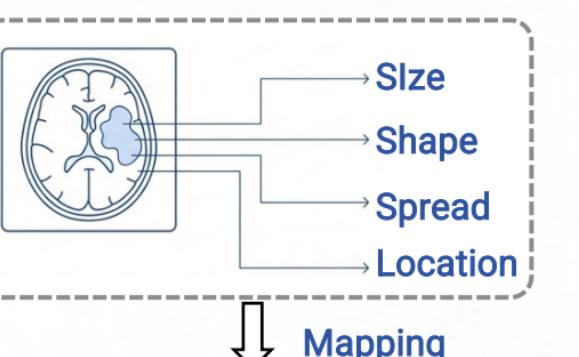
I .Curation & Indexing

Public Brain MRI Data



II .Semantics & Descriptions

Mask To Medical Semantic



JSON to Text Descriptions



III .Refinement & QC

Extracted Silver-label Information

Shape: Irregular
Margins: Well-defined
Texture: Heterogeneous
Enhancement: null
Edema: Extensive
Signal_intensity: Isointense

Multi-model Processing Pipeline



IV .Instruction Construction

Visual QA Generation

Explanation (CoT) :
Irregular shape,
Heterogeneity, Extensive
edema, T2 MRI .

CoT &
Open-
Ended

Q:Why diagnose pituitary
adenoma?
A: Due to its central sellar
location, suprasellar
extension, and T2 isointensity.

Generation Strategy

CoT & Open-Ended QA
Local LLM

CoT & Open-Ended QA are
LLM-synthesized from Silver
Labels and Ground Truth.