Multimodal Brain Tumor Segmentation (CMA+GA)

Your Name

Title & Contributions

- Cross-Modal Attention fusion for CT+MRI
- Multi-objective Genetic Optimization (accuracy/efficiency/uncertainty)
- Reproducible pipeline (MLflow + metadata + CI)

Clinical Motivation

▶ Multimodal fusion challenges and reliability needs

Framework Overview

- Diagram: dual-stream backbones + CMA + decoder

Cross-Modal Attention

- ▶ Intuition and small formula

Genetic Tuning

▶ Objectives, gene space, operators

Uncertainty & Postprocess

▶ MC Dropout/TTA; morphology cleanup

Datasets & Protocol

▶ Splits, seeds, metrics

Main Results

- Dice WT/TC/ET; latency/FLOPs

Ablation

▶ CMA on/off; objectives; postprocess

Visualization & Clinical Insights

▶ Uncertainty heatmaps; case studies

Reproducibility

- CLI, MLflow, metadata.json, CI

Limitations & Future Work

- Generalization; ethics; deployment