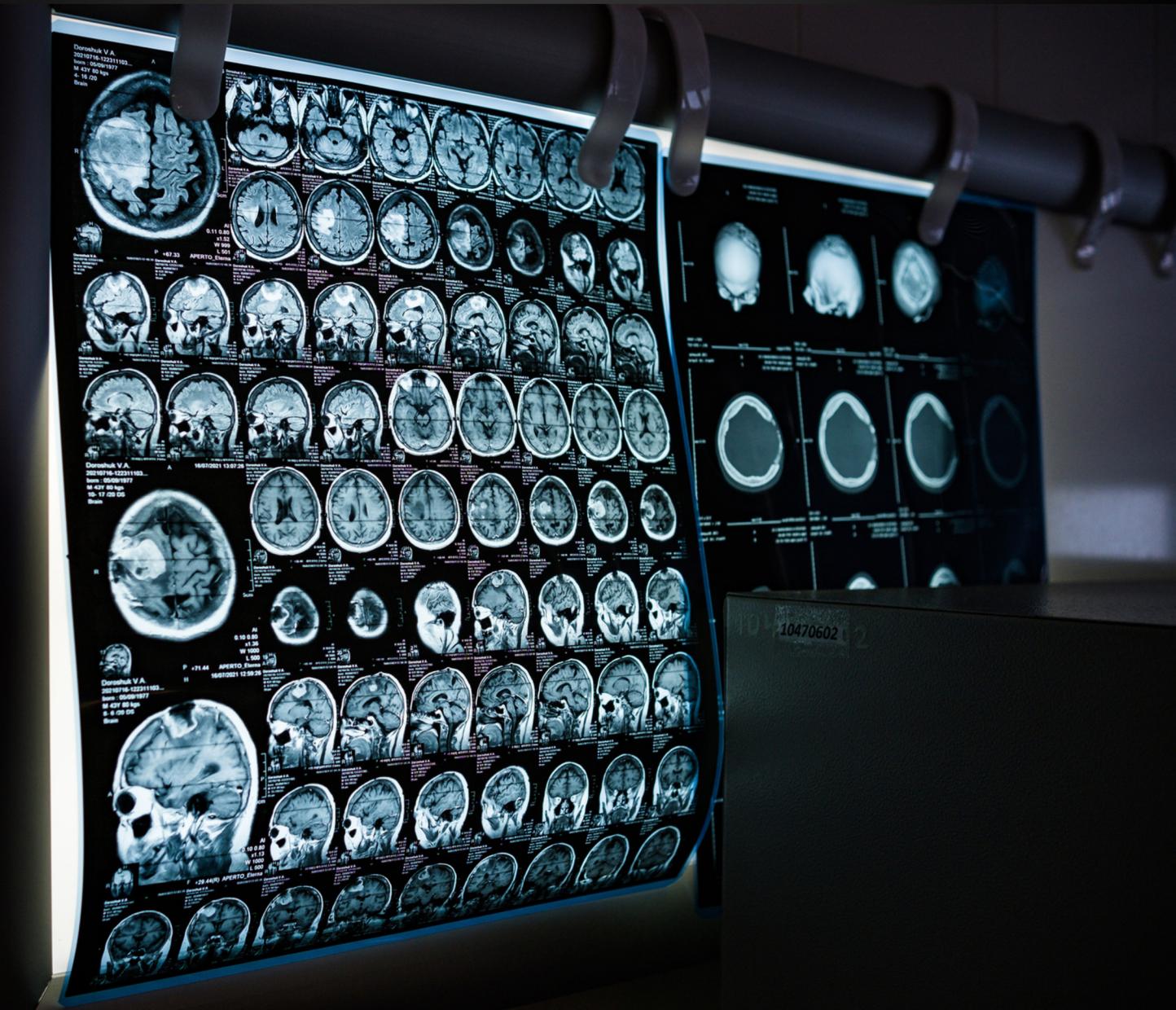


# Brain Tumor Classification



# PROJECT IDEA

- The project uses Artificial Intelligence (CNN) to analyze brain MRI images.
  - The goal is to detect whether a brain tumor exists or not.
  - It helps doctors diagnose faster and more accurately.
  - The model was trained using real MRI data.

# WORK PROCESS

1. Data Collection: Gathered brain MRI images from medical sources.
2. Data Preparation: Organized images into two categories (Tumor / No Tumor).
3. Model Training: Used CNN to teach the system to classify the images.
4. Model Evaluation: Monitored performance and adjusted settings.
5. Model Saving: Stored the trained model for later use in testing.

# PROJECT COMPONENTS

- CNN Model: The core part that analyzes and learns from MRI images.
- MRI Dataset: Contains two classes – with tumor and without tumor.
  - Streamlit Interface: Simple web app for testing the model.
- Trained Model File: Holds the final trained weights for prediction.

# IMPACT & FUTURE WORK

## Impact:

- Supports doctors in early tumor detection.
  - Saves time and effort in image analysis.
- Can assist researchers studying brain tumors.

## Future Development:

- Detect different tumor types (benign / malignant).
  - Improve accuracy with a larger dataset.
- Build a more interactive and user-friendly interface.

# MODEL DEMONSTRATION

- Built using Streamlit.
- Allows users to upload an MRI image.
- The model immediately predicts:
  -  Tumor Detected
  -  No Tumor Detected
- Shows how AI can effectively support the medical field.