



# Recommended Skeleton for Sign2Sounds

SIGN2SOUND\_TeamName/

— README.md	# ★ MANDATORY - Main documentation
— requirements.txt	# ★ MANDATORY - All dependencies
— LICENSE	# Recommended (MIT/Apache 2.0/GPL)
— .gitignore	# Recommended
— data/	# Dataset information
— README.md	# ★ MANDATORY - Dataset sources & instructions
— processed/	# Optional - Small preprocessed samples
— statistics.txt	# Dataset statistics (samples, classes, split)
— preprocessing/	# ★ MANDATORY - Data preprocessing
— preprocess.py	# Main preprocessing script
— augmentation.py	# Data augmentation functions
— extract_features.py	# Feature extraction (frames/landmarks)
— README.md	# Preprocessing pipeline documentation
— features/	# ★ MANDATORY - Feature extraction
— hand_landmarks.py	# Hand landmark detection
— pose_estimation.py	# Body pose extraction
— facial_features.py	# Facial expression capture (if used)
— feature_utils.py	# Utility functions
— README.md	# Feature extraction methods
— models/	# ★ MANDATORY - Model architecture
— model.py	# Main model architecture

- custom\_layers.py # Custom layers/attention (if any)
- loss.py # Custom loss functions (if used)
- README.md # Model architecture documentation
- training/ # ★ MANDATORY - Training pipeline
  - train.py # ★ Main training script
  - config.yaml / hyperparams.yaml # Hyperparameters configuration
  - callbacks.py # Training callbacks (if used)
  - evaluate.py # Model evaluation script
  - README.md # Training instructions
- inference/ # ★ MANDATORY - Inference & demo
  - infer.py # Single inference script
  - realtime\_demo.py # Real-time demonstration
  - tts.py # Text-to-speech module
  - utils.py # Helper functions
  - README.md # Inference usage instructions
- ui/ # Optional - Only if UI exists
  - app.py / index.html # Main UI application
  - static/ # CSS, JS, images
  - templates/ # HTML templates (if web app)
  - README.md # UI setup instructions
- notebooks/ # Recommended - Exploratory work
  - 01\_data\_exploration.ipynb # Dataset analysis
  - 02\_model\_experiments.ipynb # Model experimentation
  - 03\_results\_visualization.ipynb # Results analysis
  - README.md # Notebook descriptions
- results/ # ★ MANDATORY - Performance results
  - metrics.json # All performance metrics
  - confusion\_matrix.png # ★ Confusion matrix visualization
  - loss\_curves.png # ★ Training/validation loss
  - accuracy\_curves.png # ★ Training/validation accuracy
  - per\_class\_performance.csv # Per-class metrics
  - training\_log.txt # Complete training logs
  - sample\_outputs/ # Sample predictions
    - sample\_1.png
    - sample\_2.png
    - predictions.txt
- checkpoints/ # Model weights
  - best\_model.h5 / best\_model.pth # Best model checkpoint

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|   |— final_model.h5 / final_model.pth # Final model
|   |— README.md                      # ★ MANDATORY - Download links if >100MB
|
|   |— docs/                          # ★ MANDATORY - Documentation
|   |   |— architecture_diagram.png   # ★ Model architecture visualization
|   |   |— system_pipeline.png        # ★ End-to-end system flow
|   |   |— technical_report.pdf       # ★ Complete technical report
|   |   |— dataset_preprocessing.md   # Preprocessing details
|   |   |— training_details.md        # Training procedure details
|
|   |— tests/                         # Recommended - Unit tests
|   |   |— test_preprocessing.py
|   |   |— test_model.py
|   |   |— test_inference.py
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|   |— scripts/                      # Optional - Utility scripts
|   |   |— download_datasets.sh
|   |   |— setup_environment.sh
|   |   |— run_all.sh
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