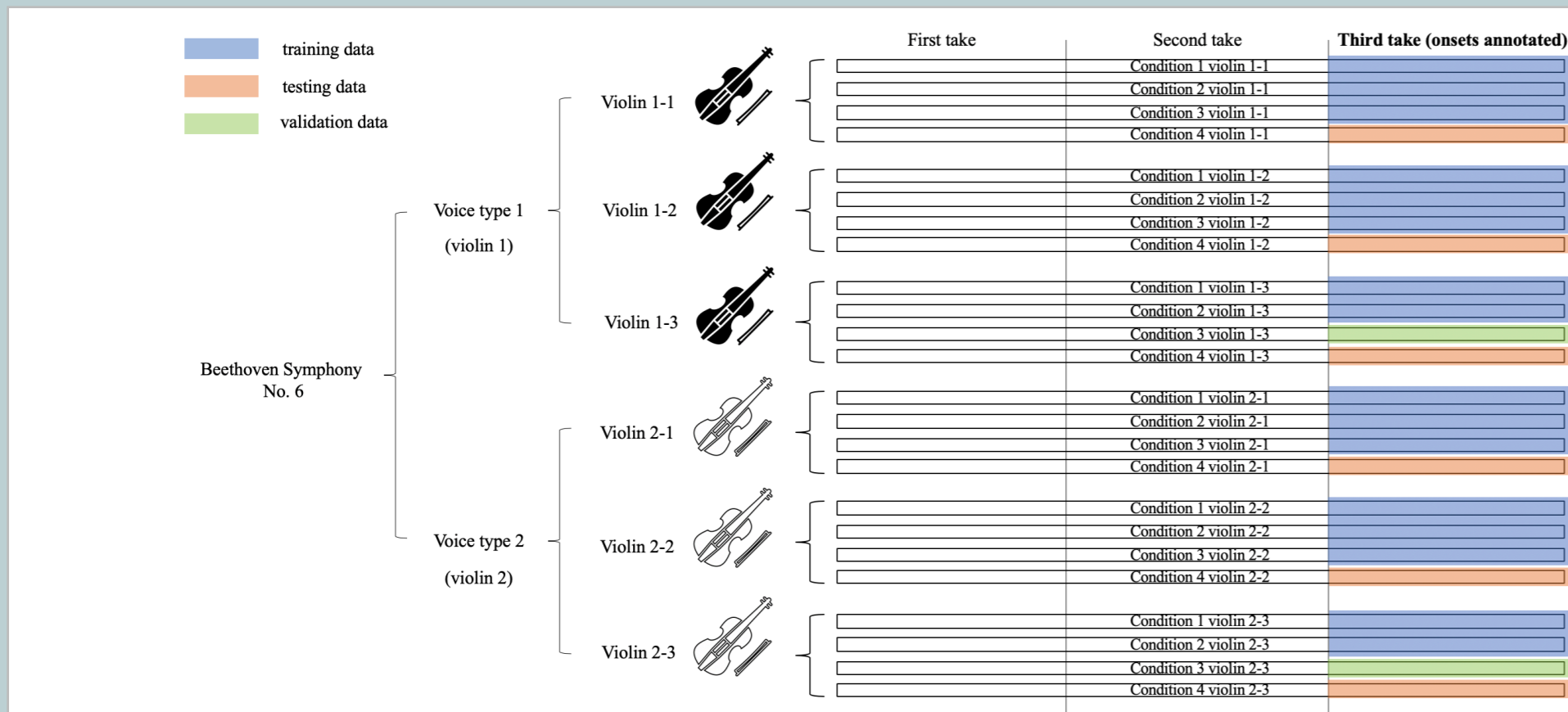
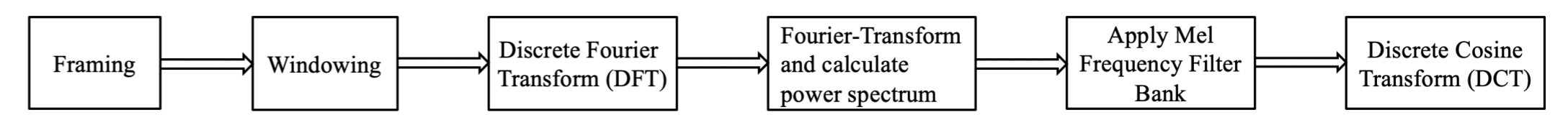


## DETECTION OF ONSETS IN STRING INSTRUMENT MUSIC USING CONVOLUTIONAL NEURAL NETWORKS

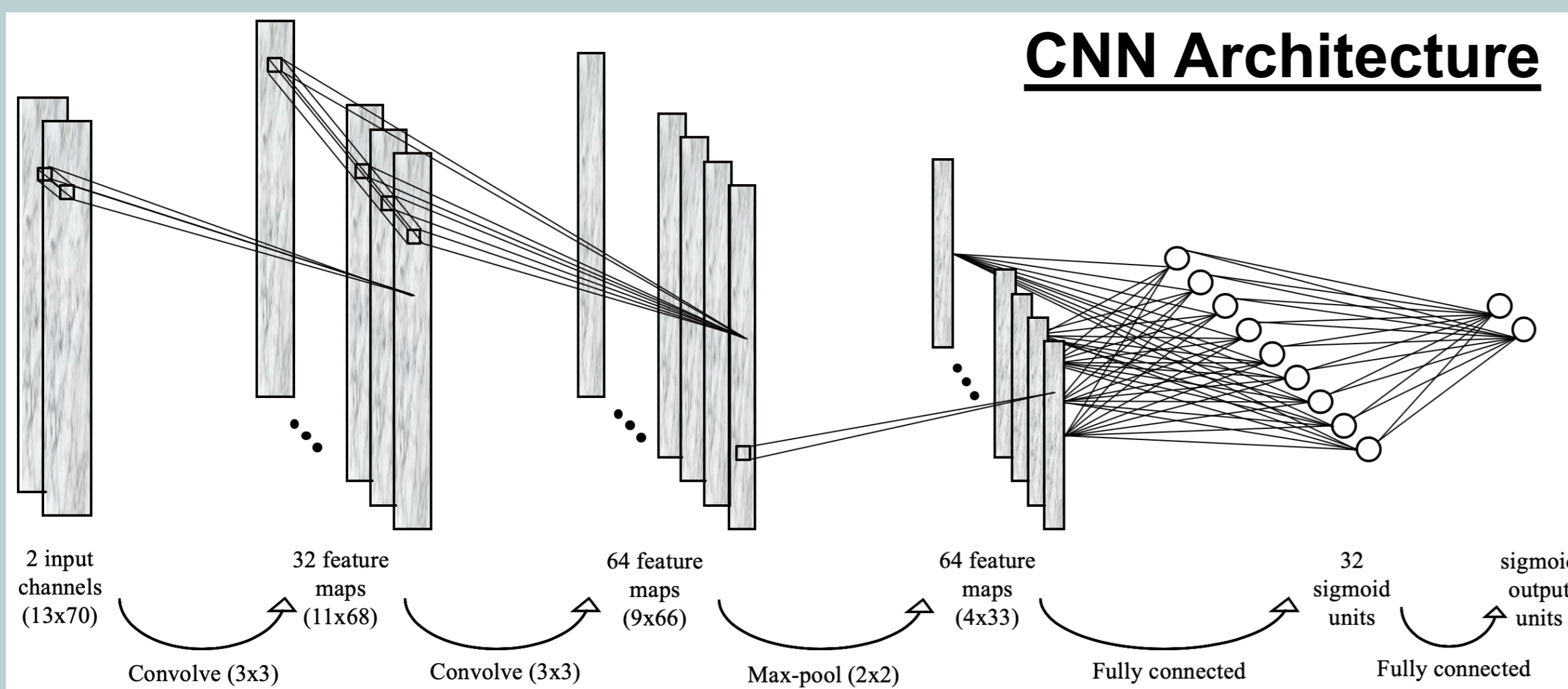


### Data Preprocessing

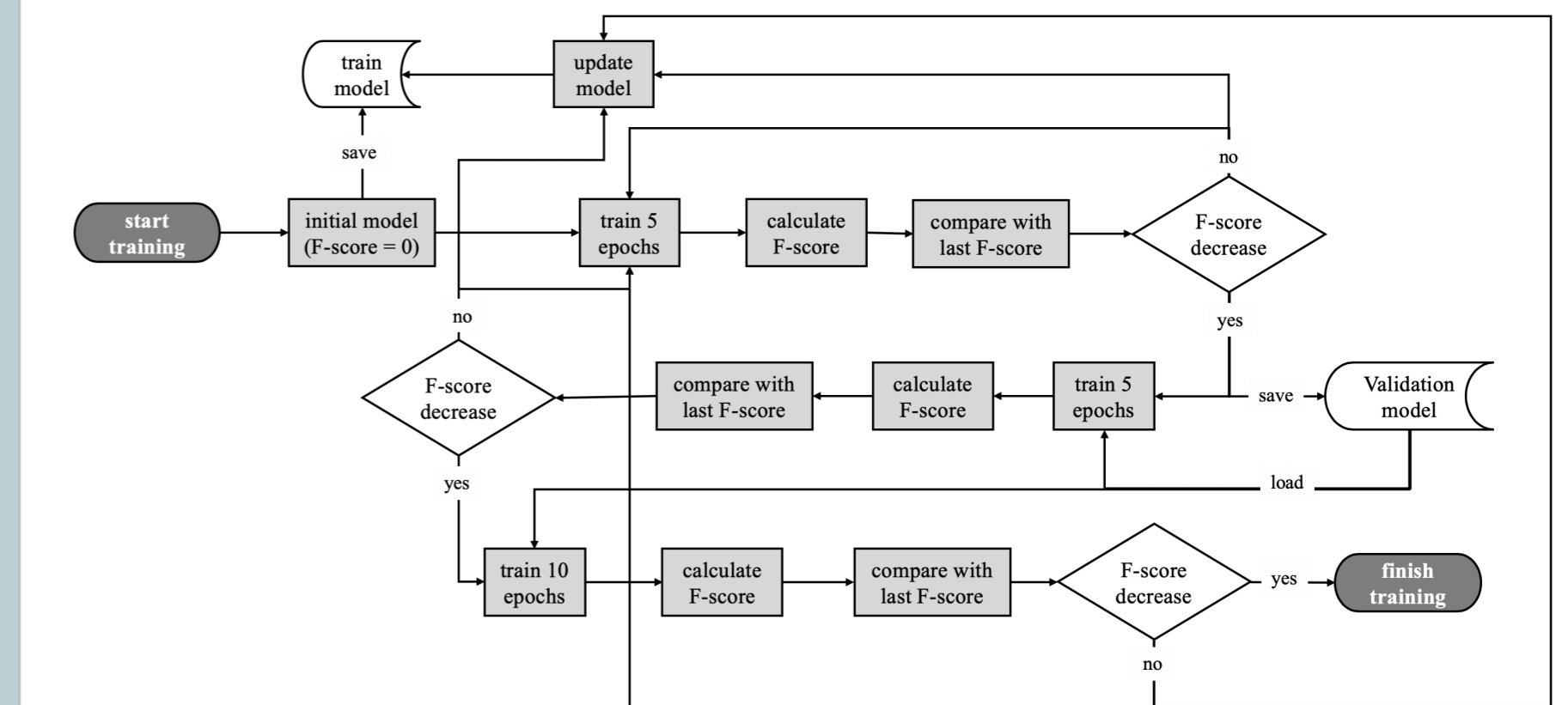
- Import wave files and onsets annotation
- Extract energy feature using MFCC



- Combine frames to include context
- Match the input with labels

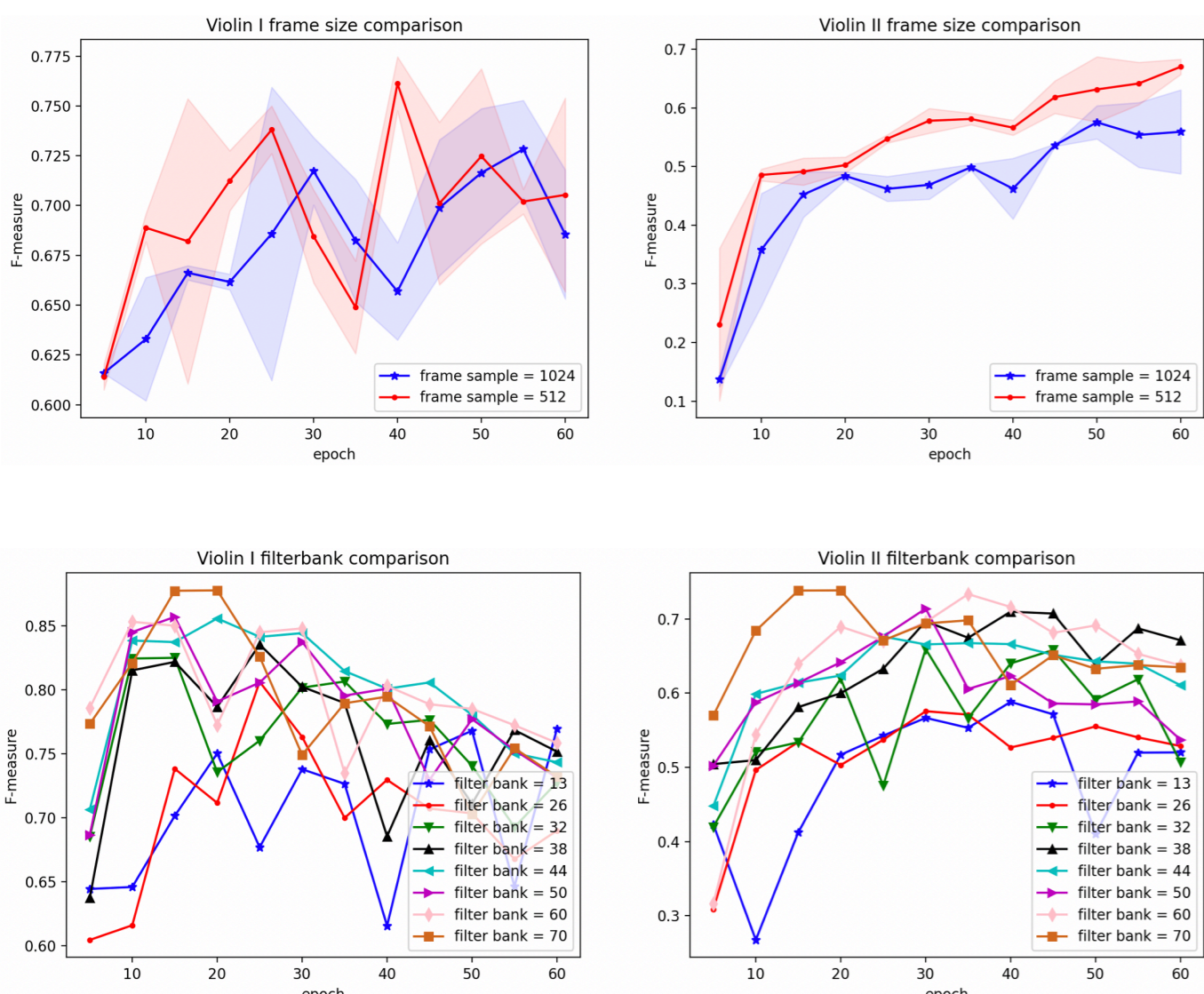


### F-measure based validation design

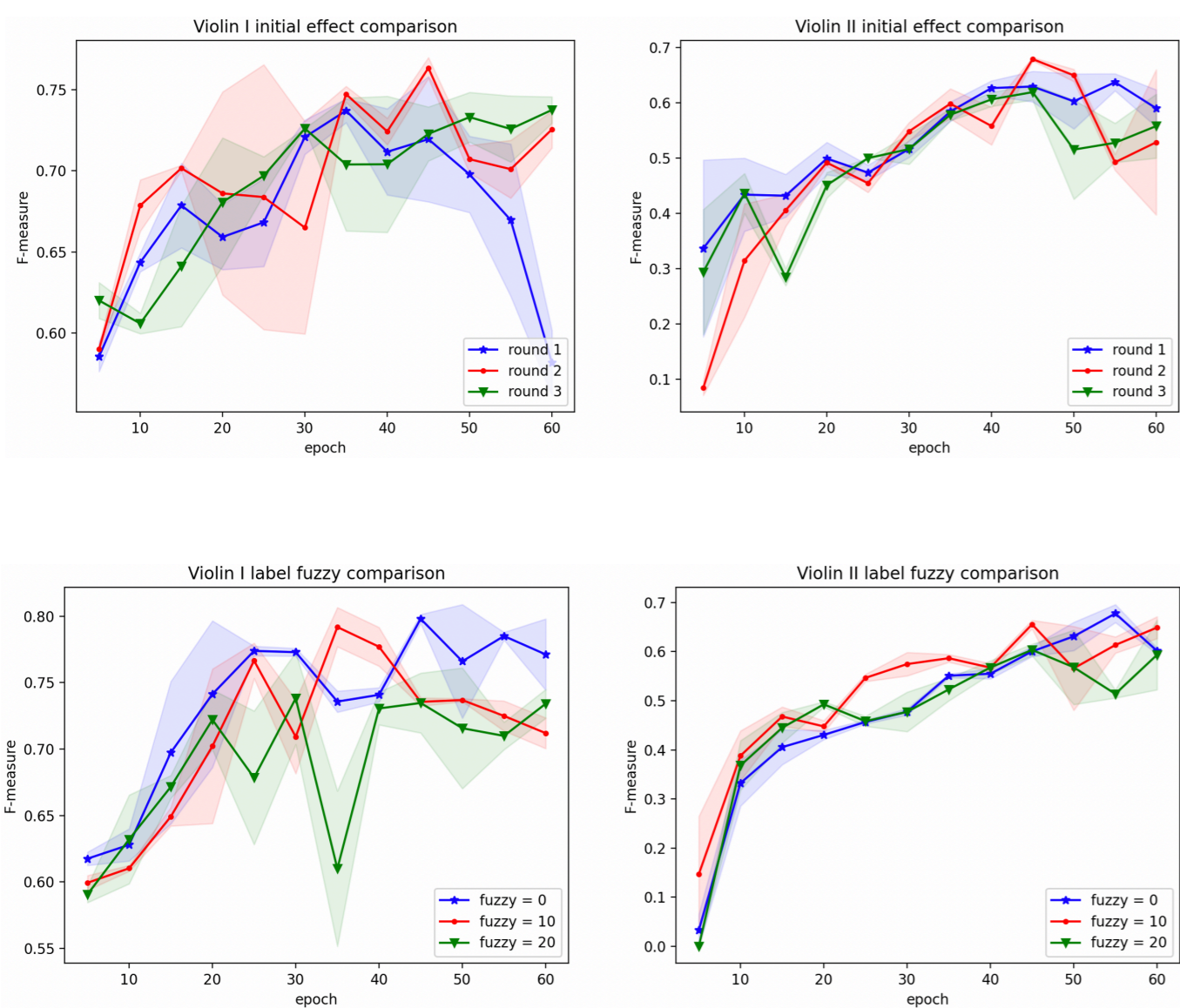


### Network explore

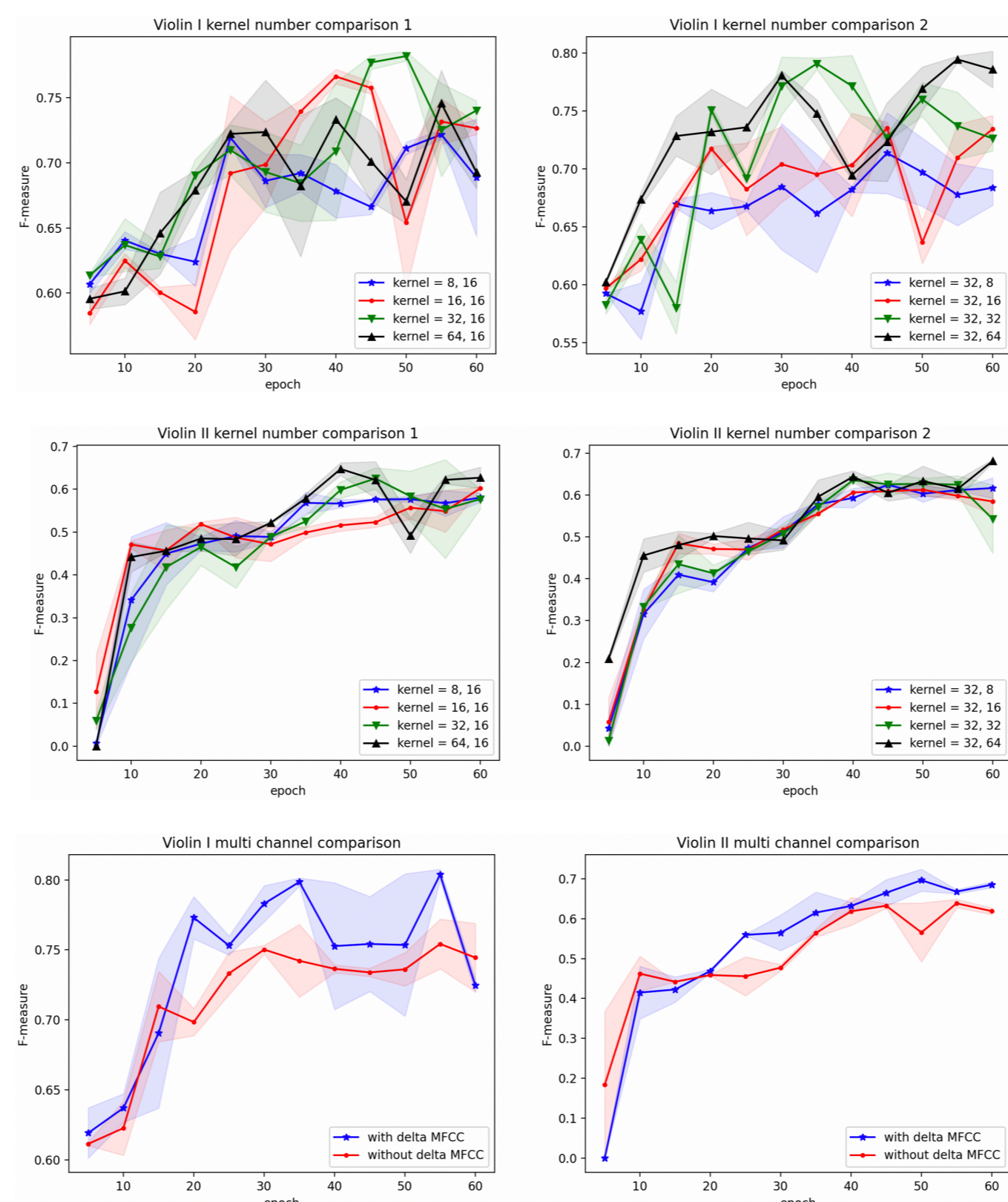
#### Data feature



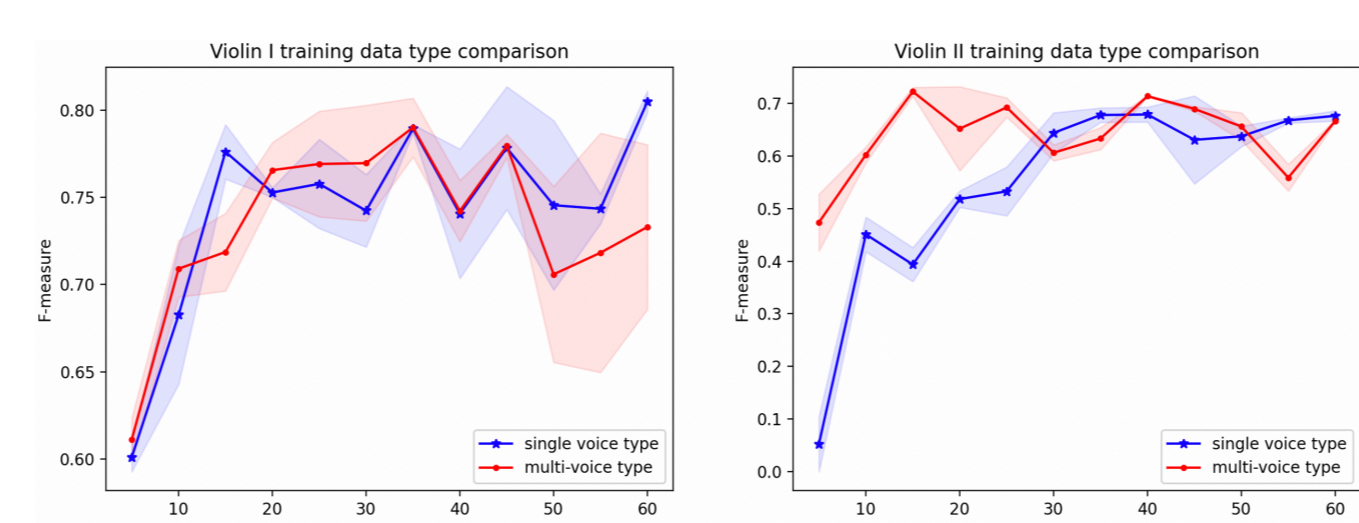
#### Robustness



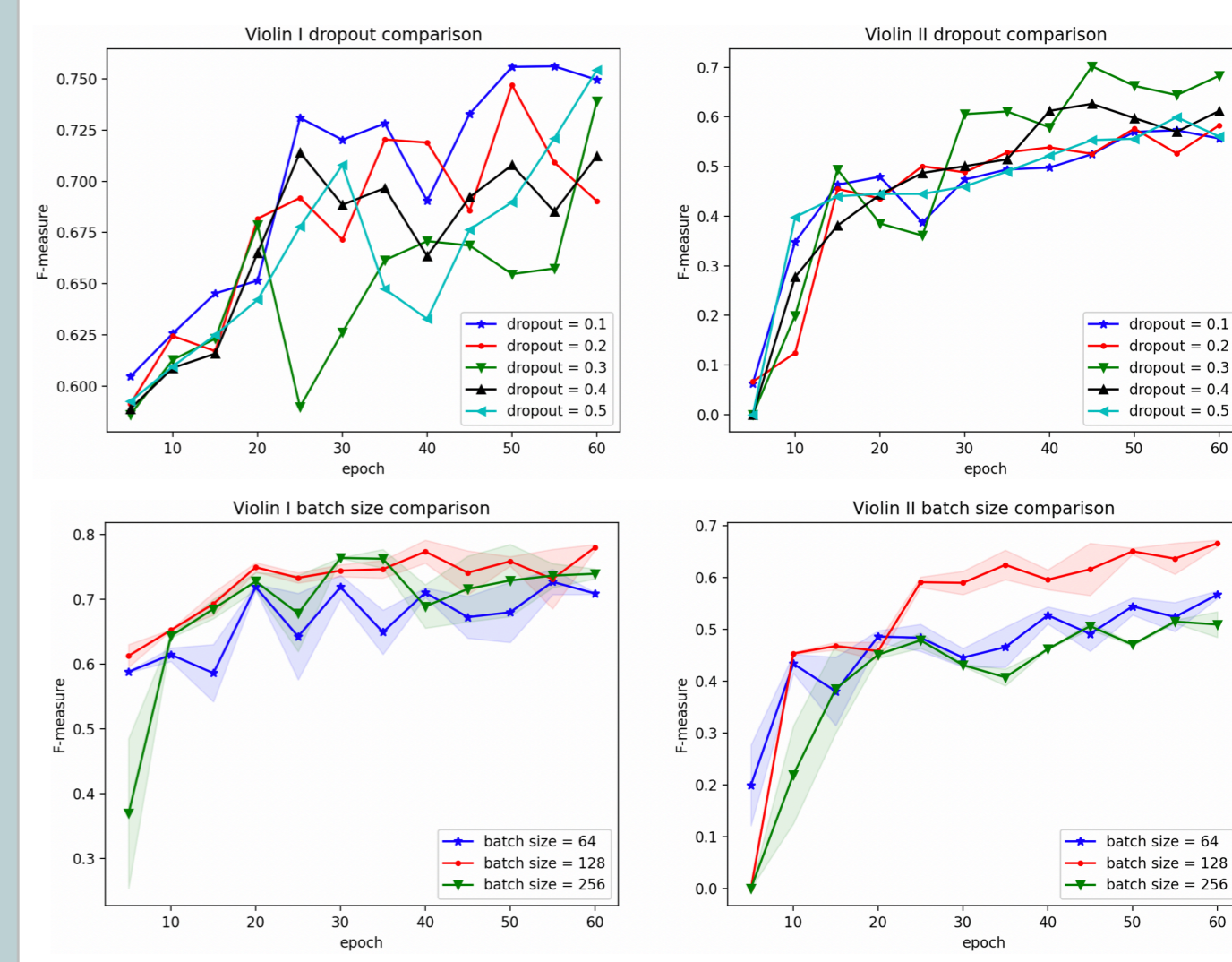
#### Network architecture



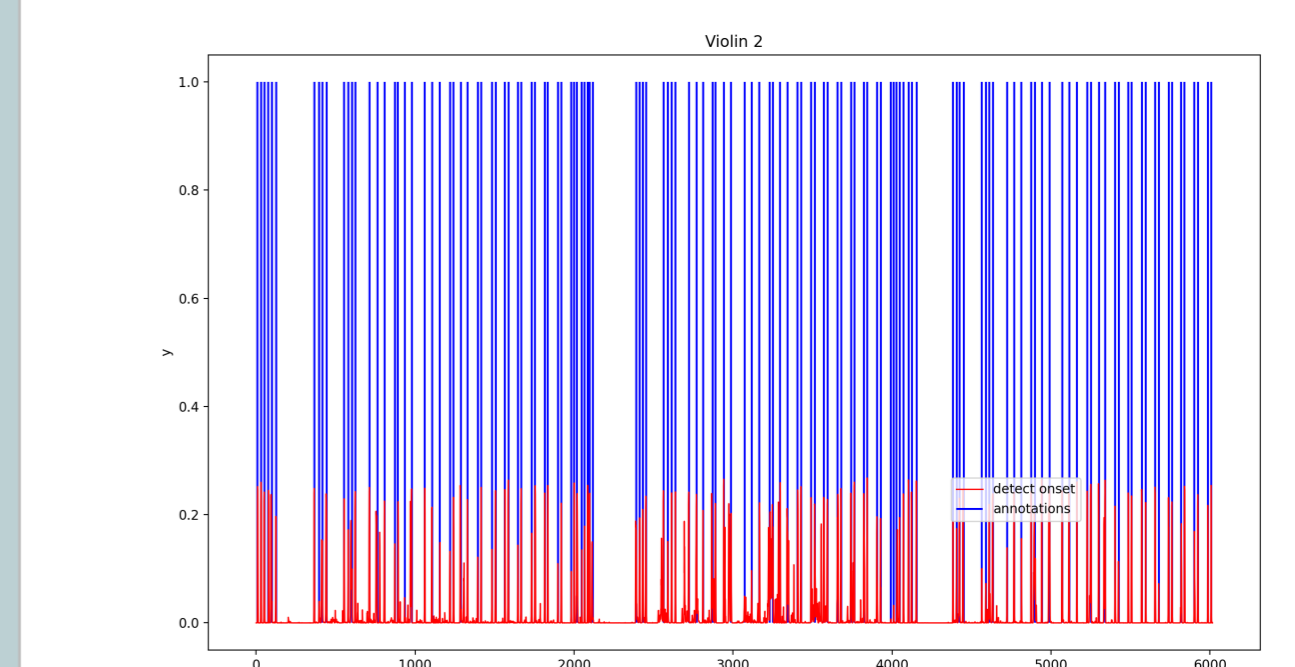
#### Training data distribution



#### Training setup



### Result



- Violin 1 F-measure **0.861**
- Violin 2 F-measure **0.820**