

# ASAP: A DATASET OF ALIGNED SCORES AND PERFORMANCES FOR PIANO TRANSCRIPTION

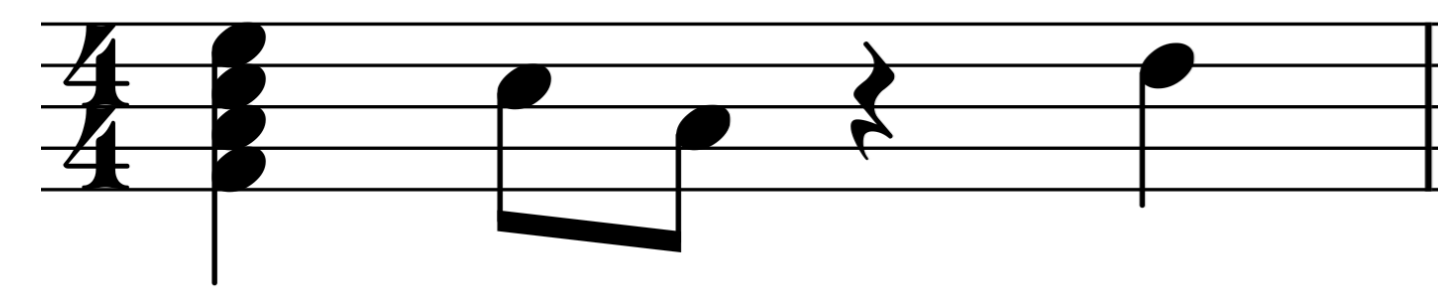
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## Dataset Content

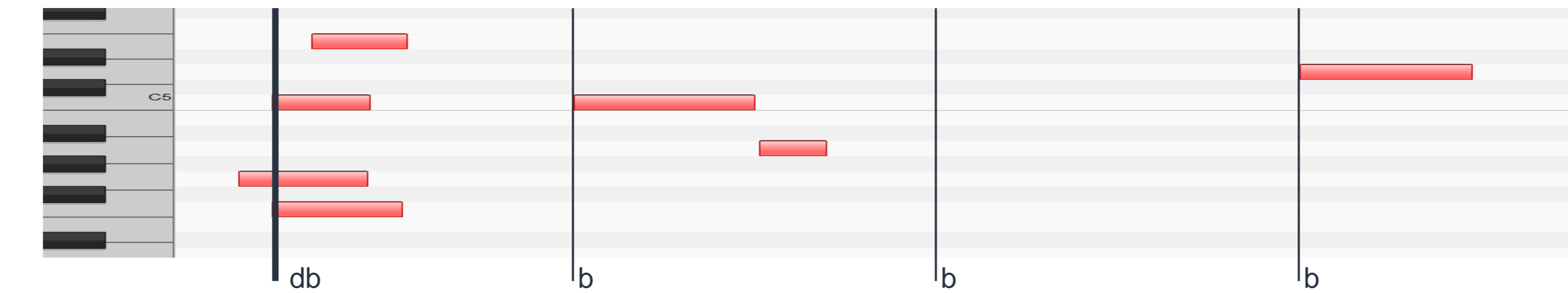
### 222 musical scores (MusicXML)

← 222 MusicXML → ← 1068 MIDI perf. →

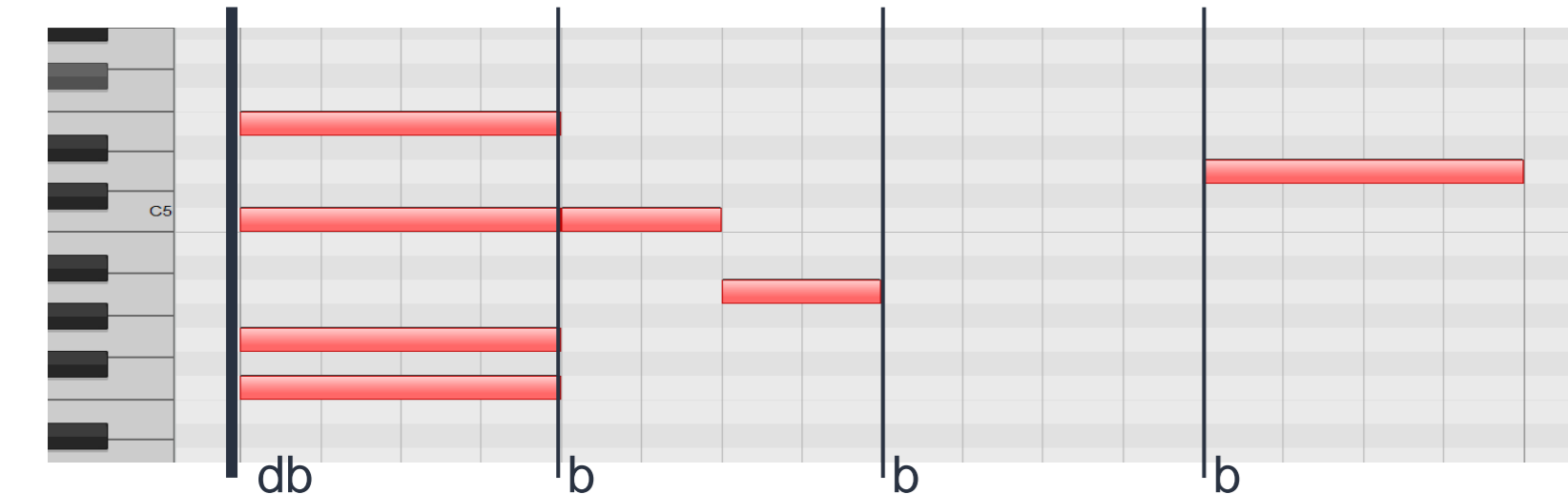


### 1068 performances (~92 hours)

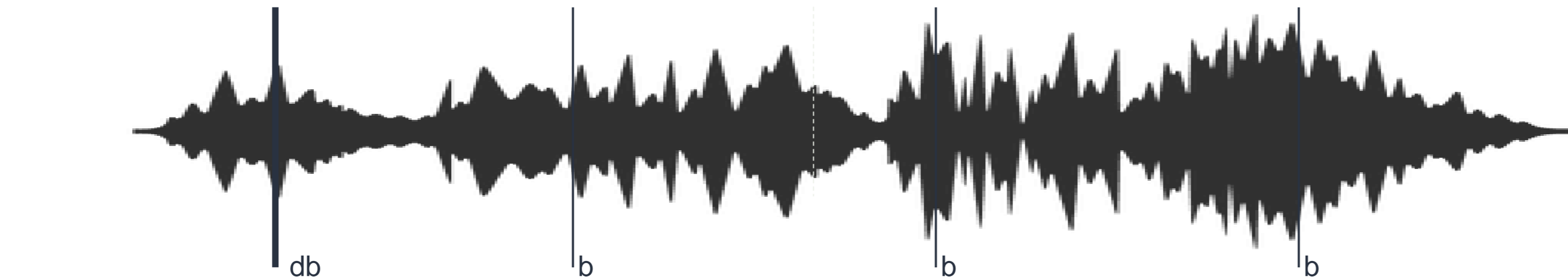
← 1068 MIDI perf. →



### 222 MIDI (quantized)



### 520 Audio perf.



#### Annotations (on MIDI files):

- Beats
- Downbeats
- Time signature(s)
- Key signature(s)

#### Alignments:

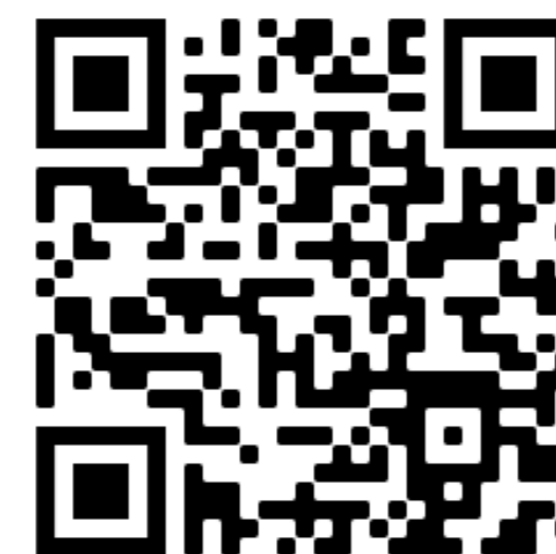
- MIDI and audio are temporally aligned
- Every performance (MIDI and audio) is linked to its musical score
- Each annotation in a performance is linked to the corresponding annotation in the midi score
- Each downbeat annotation is linked to a measure in the MusicXML score

#### Origin of the files

- Audio performances are from the Maestro Dataset [1]
- MIDI performances are from the Maestro Dataset and the Yamaha e-piano competition [4]
- Musical scores are from the MuseScore online library [5]
- Score and Yamaha MIDI performances were first collected and aligned by [20]

## Suggested use-cases

- beat/downbeat tracking
  - key signature estimation
  - time signature estimation
- From both audio and MIDI

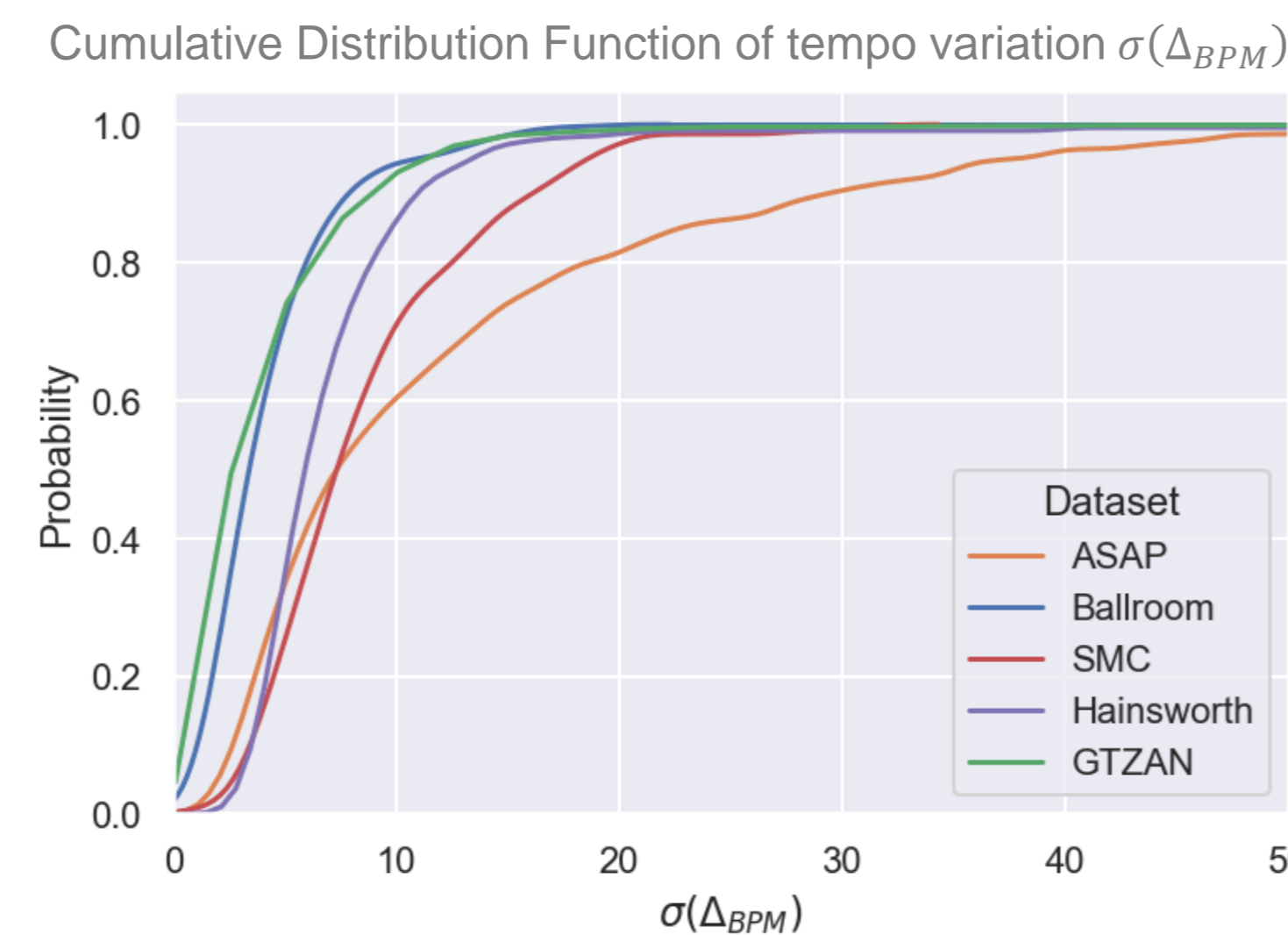


<https://github.com/fosfrancesco/asap-dataset>

## Comparison with other datasets

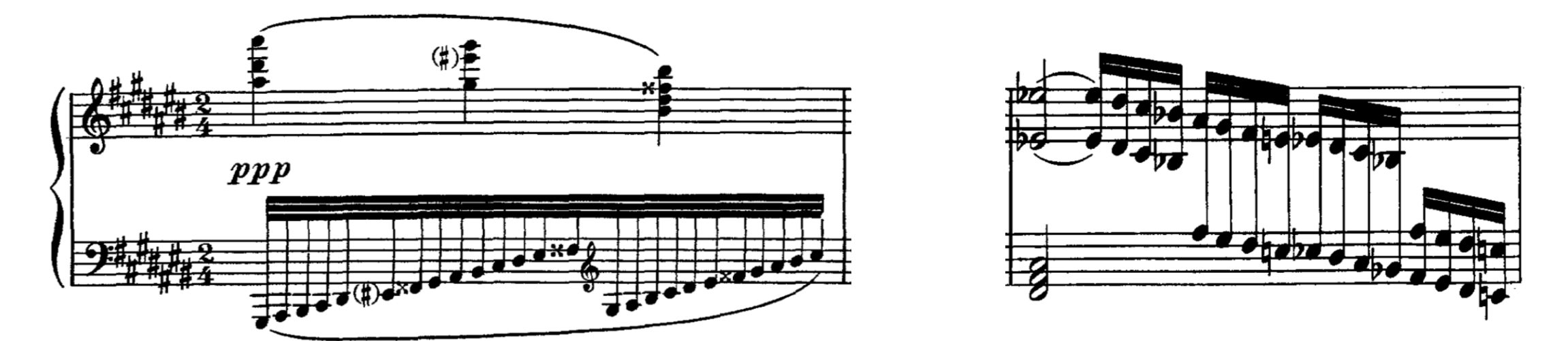
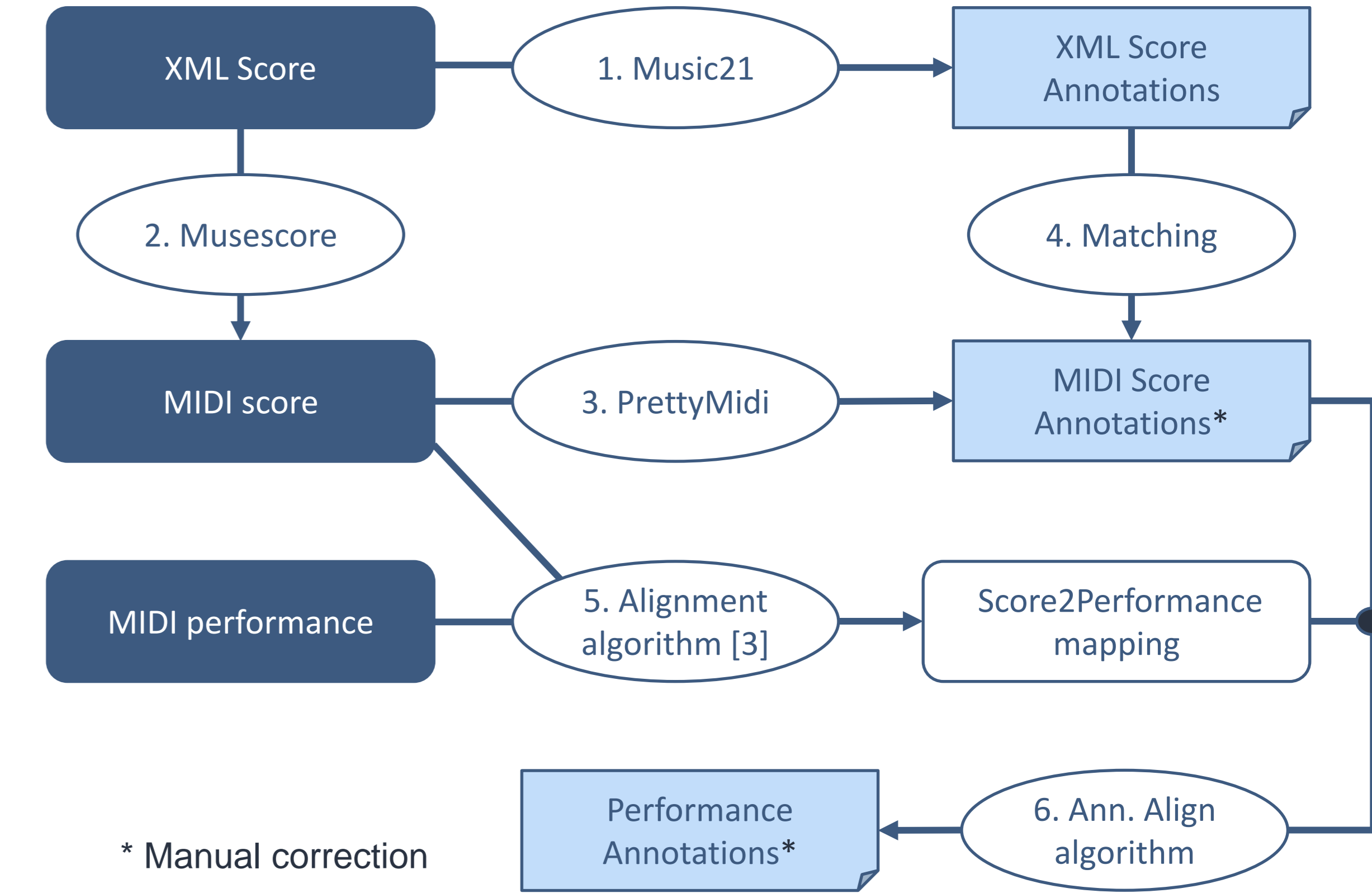
Dataset	Size		Performance		Quantized		Annotations		
	Total	Unique	Audio	MIDI	MIDI	Score	Alignment	Metrical	Key
MAPS	269	52	Pseudo <sup>†</sup>	Pseudo	✓	✓	Full	✓	✓
CrestMuse-PEDB	411	≈100	Partial <sup>†</sup>	✓	✓	✓	Full	✓	✓
SUPRA	478	≈430	Pseudo <sup>†</sup>	✓					
MAESTRO	1282	≈430	✓	✓					
GTZAN	1000	1000	✓					✓	Global
Ballroom	685	685	✓					Beat	
Hainsworth	222	222	✓					Beat	
SMC	217	217	✓					Beat	
ASAP	1068	222	520	✓	✓	✓	Beat	Beat	✓

Classical Music  
+  
Real Piano performances  
=  
Very high tempo variation



## Annotation Workflow

A semi-automatic approach: manual corrections are necessary when possible problems are detected.



Incorrect original notation: Ravel's Ondine, Mozart's Fantasie in C minor (in 4/4)

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#### REFERENCES

1. Curtis Hawthorne, Andriy Stasyuk, Adam Roberts, Ian Simon, Cheng-Zhi Anna Huang, Sander Dieleman, Erich Elsen, Jesse Engel, and Douglas Eck. Enabling factorized piano music modeling and generation with the MAESTRO dataset. In International Conference on Learning Representations, 2019.
2. Dasaem Jeong, Taegyun Kwon, Yoojin Kim, Kyogu Lee, and Juhan Nam. VirtuosoNet: A hierarchical RNN-based system for modeling expressive piano performance. In ISMIR, pages 908–915, 2019.
3. Eita Nakamura, Kazuyoshi Yoshii, and Haruhiro Katayose. Performance error detection and post-processing for fast and accurate symbolic music alignment. In ISMIR, pages 347–353, 2017.
4. Yamaha e-piano competition dataset, <http://piano-e-competition.com>
5. MuseScore online library, <https://musescore.com/sheetmusic>