# ATEPP: A Dataset of Automatically Transcribed Expressive Piano Performance

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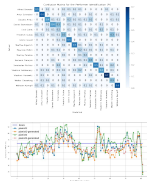
## Introduction

ATEPP is a dataset that contains 1000 hours of performances of standard piano repertoire by 49 pianists, organized and aligned by compositions and movements for comparative studies.

- Evaluation of transcribed MIDI for representing expressive performance with a listening evaluation
- Curation of the dataset including composition entity resolution and a pipeline for audio matching and solo filtering.
- Baseline experiments for performer identification and performance rendering on our datasets.

| | Q1 | Q2 | Q3 | Q4 | Overall |
|---|---|---|---|---|---|
| Reference | 4.42±0.20 | 4.17±0.22P | 4.26±0.31 | 4.26±0.28 | 4.04±0.27 |
| C1 | 4.12±0.38 | 3.52±0.37 | 3.81±0.42 | 3.89±0.41 | 3.68±0.41 |
| C2 | 3.91±0.42 | 3.86±0.39 | 3.48±0.35 | 3.87±0.37 | 3.48±0.45 |
| C3 | 3.67±0.36 | 3.49±0.39 | 3.44±0.39 | 3.64±0.39 | 3.44±0.41 |
| C4 | 3.96±0.34 | 3.52±0.47 | 3.84±0.29 | 3.68±0.39 | 3.68±0.41 |

Table 1. Results of listening test. The mean opinion scores (MOS) and 95% confidence intervals are reported.
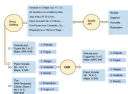
## Organization Pipeline



**Algorithm 1** Composition Entity Resolution

## Dataset Application



| Subset | Pianists | Size | Acc. | F1-score |
|---|---|---|---|---|
| Mixture | 16 | 4676 | 0.47 | 0.45 |
| Beethoven | 12 | 3078 | 0.48 | 0.46 |
| Chopin | 5 | 973 | 0.55 | 0.54 |
| Bach | 5 | 1019 | 0.59 | 0.55 |

**Table 4.** Performer identification results.

## Dataset demography

- 11742 Tracks for 1580 movements
- 49 performers
- 25 Western classical composers
- MusicXML score covering 43% of data