



**Salzburg 2017**

***Deep Learning in OMR***  
***Full-context training***

[herve.bitteur@audiveris.org](mailto:herve.bitteur@audiveris.org)

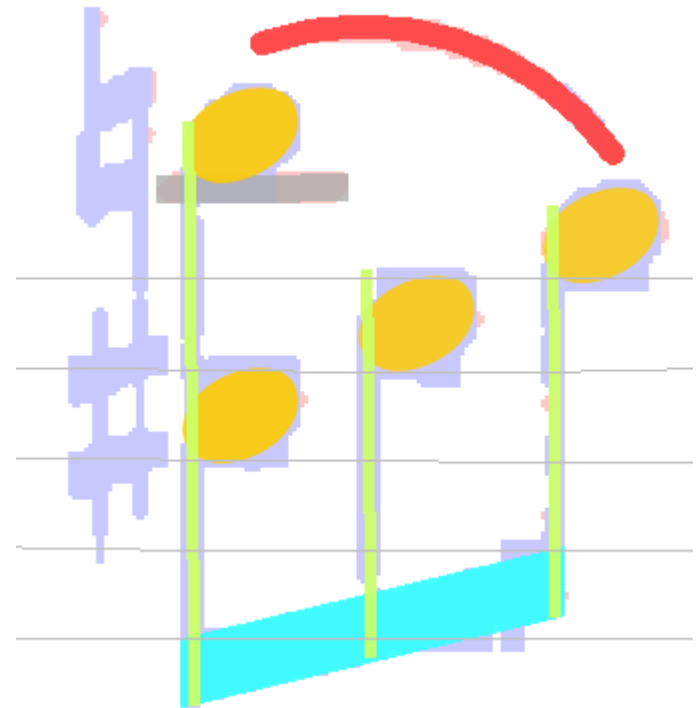
April 8-9, 2017

# Participants

- Sanu Pulimootil
  - ✓ Bavarian State Library
- Werner Scheer
  - ✓ MuseScore
- Nicolas Lasconic
  - ✓ MuseScore
- Hervé Bitteur
  - ✓ Audiveris

# Typical examples

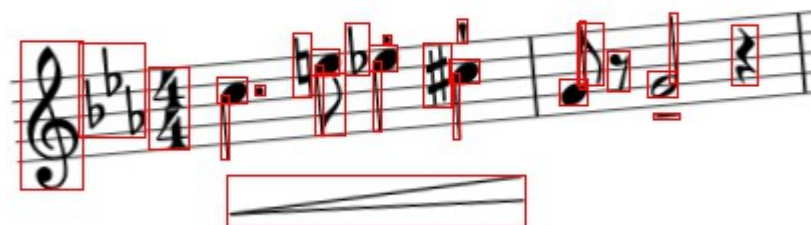
- Staff removal
- Stuck symbols



# Tasks

- Images generation
  - ✓ Muscore « synthetic » scores + symbols infos
  - ✓ Font variation
  - ✓ Images distortion
- Features extraction
  - ✓ Images + Symbols → Features in CSV
  - ✓ [Features → subimages for visual check]
- Training
  - ✓ CSV → Training with monitoring

# Straight & rotated scores



# Symbol sub-image examples



1-SHARP.png



2-FLAT.png



3-NATURAL.png



4-NOTEHEAD\_BL  
ACK.png



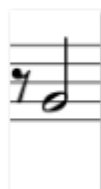
4-STEM.png



5-NOTEHEAD\_BL  
ACK.png



5-STEM.png



6-NOTEHEAD\_VO  
ID.png



6-STEM.png



7-NOTEHEAD\_BL  
ACK.png



7-STEM.png



8-NOTEHEAD\_BL  
ACK.png



8-STEM.png



9-NOTEHEAD\_BL  
ACK.png



9-STEM.png



10-NOTEHEAD\_B  
LACK.png



10-STEM.png



11-NOTEHEAD\_B  
LACK.png