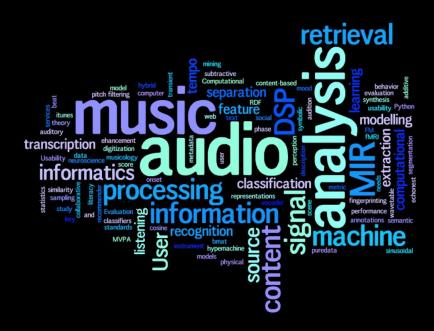
# SOLOS: A DATASET FOR AUDIO-VISUAL MUSIC ANALYSIS

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# COMPUTER VISION MUSIC AUDIO ANALYSIS



Source: teaching mir: educational resources related to music information retrieval ISMIR 2012 Emilia Gomez. UPF.

Which instruments can you hear?



# COMPUTER VISION MUSIC AUDIO ANALYSIS



Source: teaching mir: educational resources related to music information retrieval ISMIR 2012 Emilia Gomez. UPF.

Which instruments can you hear?

Hard to say being an untrained listener

- Two instruments?
- String

Difficult to say from audio only...

# COMPUTER VISION MUSIC AUDIO ANALYSIS

Sibelius - Duo in C Major with Violin and Viola



Which instruments can you hear?

#### Two violins!

+Wait... are they violins?

-Hmmm the timbre of both is different

+ So, two different sounds, similar looking... ¡Violin and Viola!

# retrieval subtractive computational computational computational separation separation Usability data score informatics onset sampling oppositions and one of the processing of the proces

Source: teaching mir: educational resources related to music information retrieval ISMIR 2012 Emilia Gomez. UPF.

#### What's the moral of this?

MUSIC AUDIO ANALYSIS



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#### **13** CATEGORIES

Same as URMP Dataset



- Same categories as the URMP dataset Evaluate your source sep. models in real mixtures!
- OpenPose based skeleton
   Interpolated missing joints to improve your training stability.
  - Filter out the stamps as you need.
  - Crop around the instrument
  - Crop around the face or the hands.



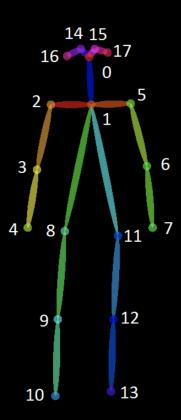
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Why do we interpolate?
 When Openpose fails to detect a limb, it sets
 Its coordinates as (0,0) → inestability

How do we interpolate?
 The simple the better. Linear interpolation!
 Buuut... in relative coordinates



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#### Key ideas:

- Skeletons are tree-like graphs.
- o The absolute position of a joint can be calculated from the absolute position of the parent + the relative position of the child w.r.t. the parent.

This way we ignore the error induced by inferring the drag velocity.
(Which would be huge for the fingers)

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