INTERNATIONAL AUDIO LABORATORIES ERLANGEN
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# TuneIn: A Web-Based Interface for Practicing Choral Parts

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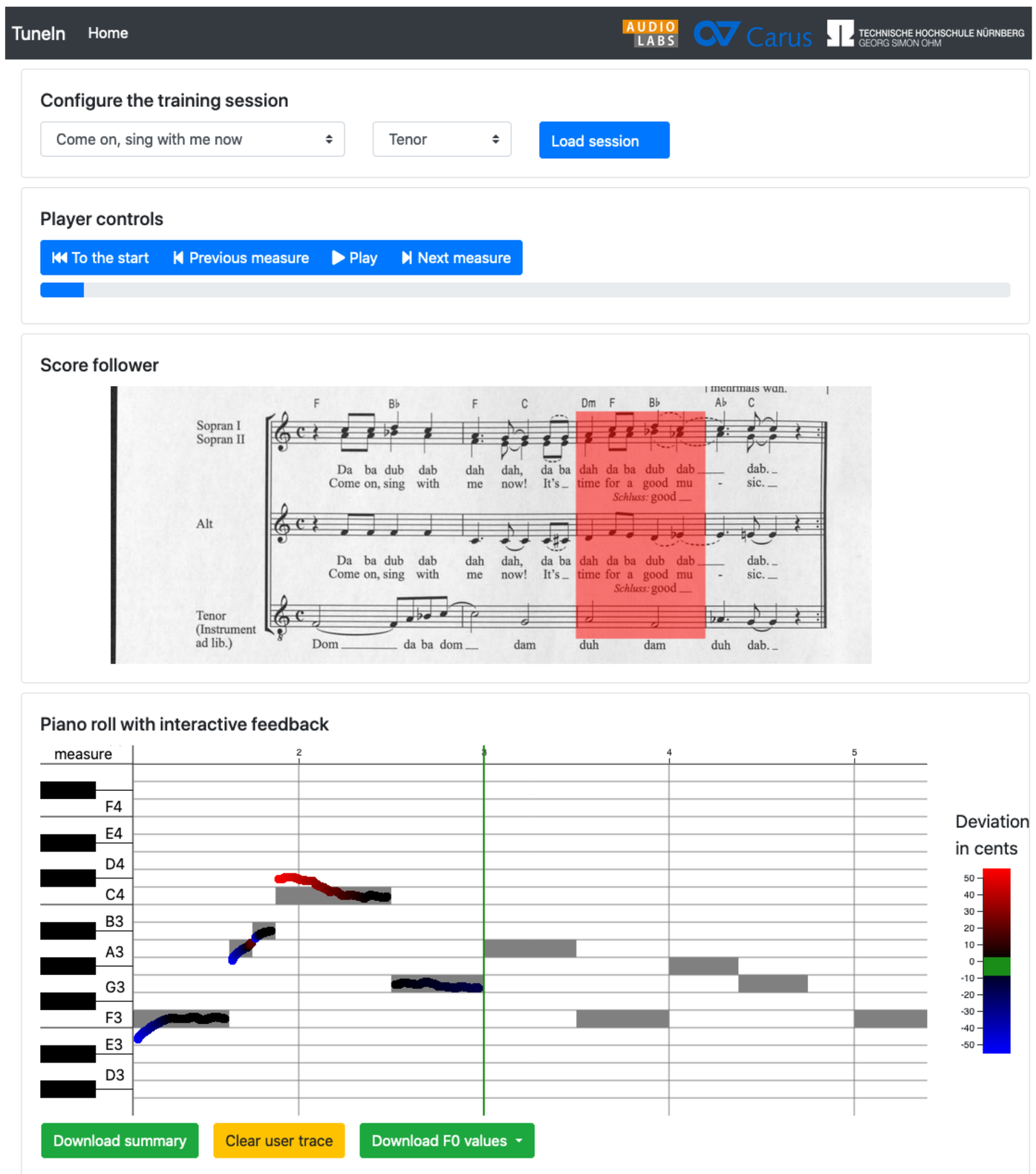
## Abstract

Choir singers typically practice their choral parts individually in preparation for joint rehearsals. Over the last years, applications have become popular that support individual rehearsals, e.g., with sing-along and score-following functionalities. In this work, we present a web-based interface with real-time intonation feedback for choir rehearsal preparation. The interface combines several open-source tools that have been developed by the MIR community.

## Demo

## Web-based Interface (https://www.audiolabs-erlangen.de/resources/MIR/TuneIn/)




### Features

- Singer selects piece and part
- Audio playback
- Score following player from [1] highlights current measure
- Piano roll representation with real-time feedback
  - F0-estimation of the singer's voice using CREPE [2] and *Tensorflow.js*
  - Deviations from MIDI pitch in cents color-coded (red: positive deviation, blue: negative deviation)

    ➔ Suitable for choir recordings with piano accompaniment, which prevents choir from drifting in intonation
- Download the performance as image or CSV file

## References & Acknowledgements

[1] F. Zalkow, A. V. Corrales, T. Tsai, V. Arifi-Müller, and M. Müller: **Tools for semi-automatic bounding box annotation of musical measures in sheet music.** In Demos and Late Breaking News of ISMIR, 2019.

[2] J. W. Kim, J. Salamon, P. Li, and J. P. Bello: **CREPE: A convolutional representation for pitch estimation.** In Proceedings of ICASSP, 2018, pp. 161–165.

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