



Bachelor Thesis / Master Thesis

Optimal individual song key determination with statistical support of information retrieval

Task:

Singing is an essential form of relaxation in life. As transposition (pitch-shifting) techniques become more advanced and readily available, people can sing almost all popular songs they like.

However, finding the appropriate key to sing is not easy for non-musicians. It may take time to test repeatedly for each song, and the results are often not the most satisfactory. For example, after transposing, even if the song's vocal range does not exceed the singer's natural vocal range, it may still cause discomfort during singing, primarily when the melody is heavily concentrated on the singer's high or low voice.

With the help of informatics perception of songs, you will research and solve this problem — semi-automatic at first and fully automatic in the future. For every amateur singing enthusiast, this research will bring revolutionary convenience.

Requirements:

- Good programming skills in Python
- Ability to summarize the literature
- Ability to plan and organize small-scale one-on-one short-term experiments
- A love of music, and interest in computer-assisted amateur music life
- Simple music theory knowledge, such as pitch and key (optional)

When:

- As soon as possible

KONTAKT:

Name: Dr.-Ing. Hui Liu

Telefon: 0421 – 218 – 64278

E-Mail: hui.liu@uni-bremen.de

Raumnummer: Cartesium 2.51