

## Job offer for a student assistant

For the project funded by the German Research Foundation,

### Evolutionary Optimisation of Music Categorisation based on Complex Structure Analysis of Audio Signals,

a position as a student assistant is offered at the Chair of Algorithm Engineering, Department of Computer Science, TU Dortmund.

**Project description:** The focus of this project is to improve the classification of music into genres, styles, emotions, and tags by means of high-level structure analysis of music audio signals. Another key topic is the extraction of interpretable features which are related to music theory. This holds for the segmentation based on several criteria (instrumentation, harmony, tempo, rhythm, and dynamics) as well as for high-level characteristics of the complex structure which will be used for music classification.

**Tasks:**

- Tests, integration, and application of software for music data analysis
- Extension of music data analysis framework AMUSE
- Execution of scientific studies

**Requirements:**

- Substantiated skills in Java programming
- Willingness to learn further programming languages (MATLAB, Python) as well as to read and analyse international scientific publications
- Fun on music data analysis

*Not necessarily required, but beneficial:*

- Experience in music theory (score, basics of harmonics theory, music instrument skills) and music data analysis
- Experience in Computational Intelligence and practical optimisation
- Confidence in usage of UNIX system

**Workload/Start:** 8 hours / week  
Start as soon as possible, but not before March 2018

**Contact:** Please send application documents (a short motivation letter, curriculum vitae, a list of attended university courses/lectures and related experiences) or any questions per email until 31.01.2018 to:  
Dr. Igor Vatolkin, [igor.vatolkin@cs.tu-dortmund.de](mailto:igor.vatolkin@cs.tu-dortmund.de)

