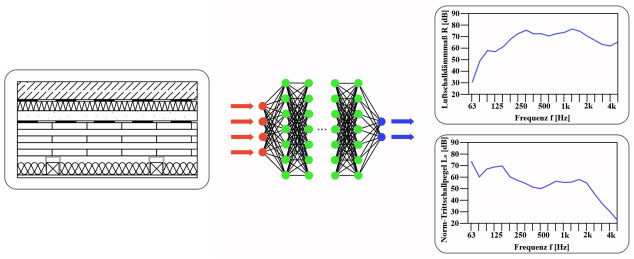
Chair of Vibroacoustics of Vehicles and Machines
School of Engineering and Design
Technical University of Munich

HiWi / **Student Assistant** 10h/wk

Sound Insulation Prediction App for Timber Construction

Timber construction is gaining increasing relevance due to its ecological and economic advantages. However, one of the key challenges associated with these lightweight structures lies in their acoustic performance. The complex interaction of individual assembly layers make it difficult to reliably predict sound insulation properties. As a result, costly experimental validation is often required. For this reason, a data-driven forecasting tool is being developed that utilizes machine learning methods to predict the sound insulation characteristics of wooden floors based on laboratory measurement data.



Prediction scheme for airborne and impact sound insulation of a mass timber floor assembly.

Your Task

In this position you will be engaged in the full development cycle of machine learning models, gaining hands-on experience with both theoretical and practical aspects of data-driven research. Your responsibilities will cover the full pipeline – from feature engineering through model training, validation, and deployment. You will improve the existing models, contribute to the development of new features, as well as integrating them into a web application.
By joining our team, you have the opportunity to apply your theoretical knowledge in a real-world context, gaining valuable insights into the development and deployment of machine learning solutions.

Qualifications

- Programming skills in Python (NumPy, scikit-learn, PyTorch, plotly).
- Basic knowledge of Git.
- Basic knowledge in machine learning and data analysis.
- High motivation and the ability to independently familiarize with new topics.
- You enjoy working in a team and are a good communicator.
- Availability $\sim$10 hours/week.

Application

The position can be started as soon as possible. Please send your application via email including

- a short text elaborating your background and motivation,
- your curriculum vitae and
- your transcript of records.

Contact

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