“l’arte del bene intavolare et rettamente sonare”: (De)coding 16th-Century Ornamentation Rules for Computational Analysis

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This paper presents the process of developing a computer-aided analysis based on the combined research of three members of the E-LAUTE project[1]. Taking the output of the tabmapper tool, a module in the abtab toolbox (De Valk, 2024)[2], as the starting point, an aim to classify and detect different types of ornamentation within intabulations, lute arrangements of vocal music pieces (Janjuš, 2024)[3], outlines the requirements for 1) an algorithm that detects these patterns in the tabmapper output (Jaklin, 2025)[4] and 2) the evaluation of the algorithm’s performance.
Formulating the classification of lute ornamentations as a rule-based model is a complex topic that encompasses various aspects, such as the ambiguity of tablature notation (encodings), the rules of intabulation and counterpoint, and the playability of the instrument. However, it is possible to break down this entire process into smaller steps that will ultimately cover the topic's complexity. The first step is already completed: tabmapper determines which notes of the lute arrangement belong to the vocal model and which are part of an ornamentation. The next step is to apply the rules for classifying this output. Research on lute ornamentation (Brown, 1973; Minamino, 1988) discusses one concise set of instructions provided by Vincenzo Galilei (Galilei, 1584) that will serve as the basis for this paper. The first challenge is to determine what in the tabmapper output is a sequence of notes that should be evaluable against Galilei’s rules. The next challenge is to translate Minamino's summary of Galilei's instructions into a set of rules applicable to this output. The python library Graphmuse (Karystinaios & Widmer, 2024), a graph processing framework that uses Graph Neural Networks (GNNs) for symbolic music tasks, has been shown to be a suitable tool which is also compatible with abtab.

We would prefer to do an oral presentation.

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[1] Project website: e-laute.info.
[2] A part of the abtab toolbox that is being developed within the project.
[3] Part of the research for a doctoral thesis conducted within the project at LMU München.
[4] Part of the research for a bachelor's thesis conducted within the project at TU Wien.

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