



THE UNIVERSITY OF
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Department of Statistics

MASTER'S THESIS PRESENTATION

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High Precision Bird Song Syllable Detection with Deep Neural
Network

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ABSTRACT

This paper summarizes experiments on detecting different bird song syllables with neural network. The audio data used in these experiments came from continuous recordings of zebra finch song in a sound isolated cage. The goal is to predict precise intervals(the bounding box) that wrap each kind of bird song syllables. The first part of this paper presents ways to train a classification model on the audio spectrogram. The second part states problems with precise bounding box prediction and then introduces a post-processing method which increases boundary precision. The final part tests the generalization power of the learned model over other birds from the same species, then introduces some ideas to improve it.

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