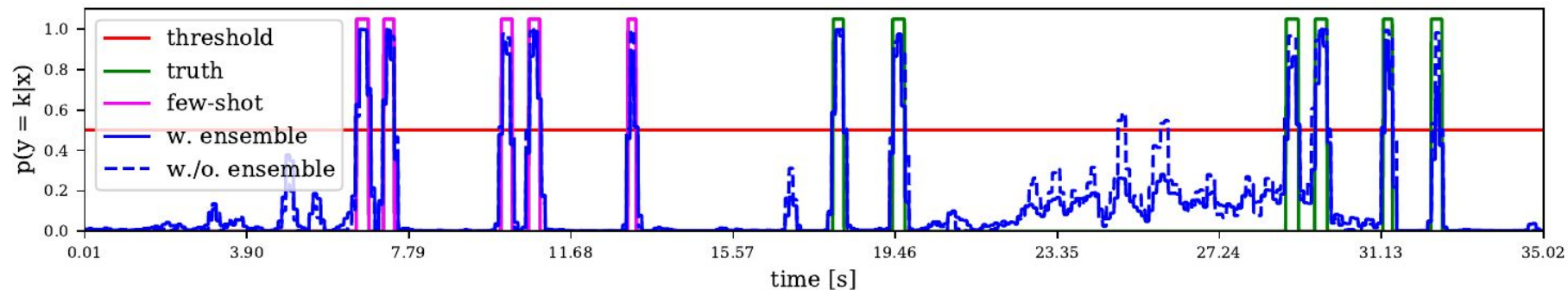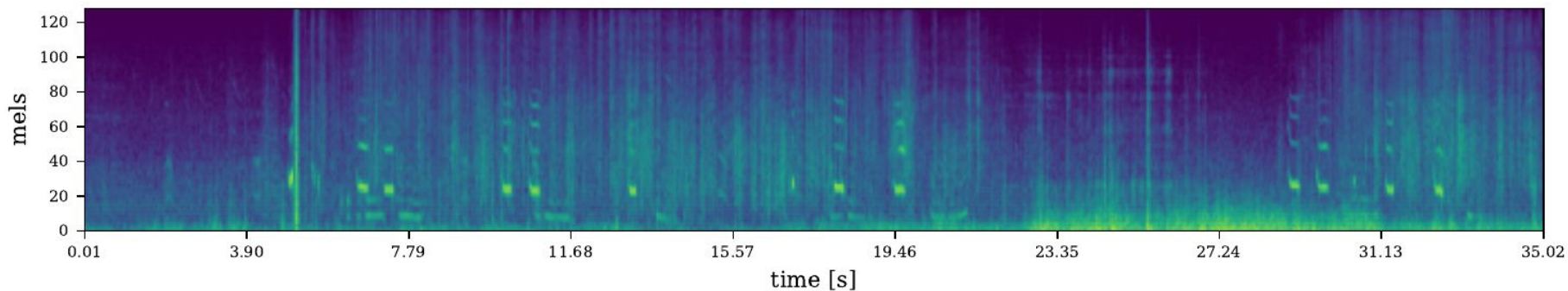# Few-shot bioacoustic event detection using an event-length adapted ensemble of prototypical networks
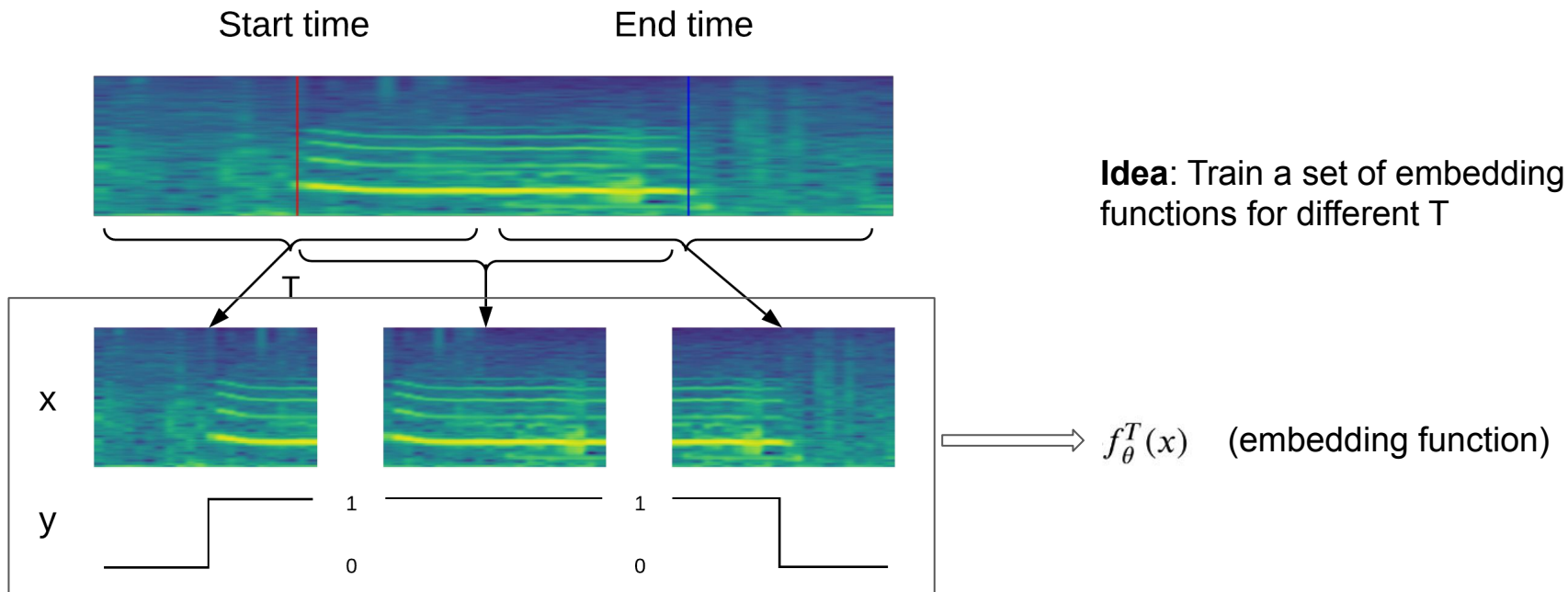
John Martinsson, Martin Willbo, Aleksis Pirinen, Olof Mogren, Maria Sandsten

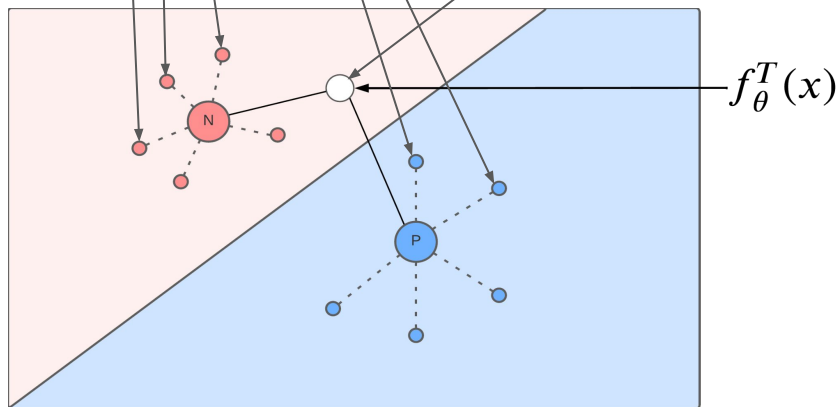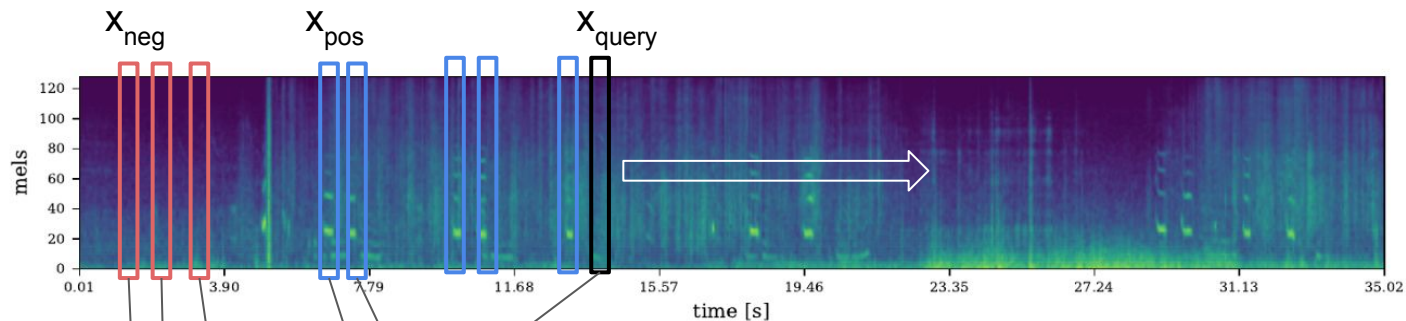Poster 6

Few-shot bioacoustic event detection (task 5)

Base training of embedding function

Start time

End time

Idea: Train a set of embedding functions for different T

T

x

$f_\theta^T(x)$ (embedding function)

y

1   1

0   0

Ensemble of event-length adapted prototypical networks

$f_\theta^T(x)$

Contribution 1: We choose the embedding function trained to match the few-shot event lengths.

Contribution 2: We ensemble predictions to reduce false-positive rate.

Main results

Method	Ensemble	Adaptive	F-score
Ours	No	No	41.3 ± 3.8
Ours	No	Yes	49.6 ± 5.3
Ours	Yes	Yes	60.0

Table 2: An ablation study of our system on the few-shot validation set where we add adaptive embedding functions and ensemble.

Key takeaways

- **High variance event-length:** Event-length adaptation makes the prototypical network more robust towards variable event-length.

- **Sparse events:** An ensemble of predictions can help reduce the false-positive rate in the few-shot sound event detection setting.

Drop by the poster to learn more!

Poster 6

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