

# LEARNING INVARIANTS FOR POLYPHONIC INSTRUMENT RECOGNITION

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## ABSTRACT

The abstract should be placed at the top left column and should contain about 150-200 words.

research. *International Society for Music Information Retrieval Conference*, 2014.

- [2] Brian McFee, Matt McVicar, Colin Raffel, Dawen Liang, Oriol Nieto, Eric Battenberg, Josh Moore, Dan Ellis, Ryuichi YAMAMOTO, Rachel Bittner, Douglas Repetto, Petr Viktorin, Joo Felipe Santos, and Adrian Holovaty. librosa: 0.4.1, October 2015.

## 1. INTRODUCTION

## 2. DEEP CONVOLUTIONAL NETWORKS

### 2.1 Time-frequency representation

Librosa Python package [2].

### 2.2 Architecture

### 2.3 Training

## 3. DEEP SUPERVISION OF MELODIC CONTOUR

### 3.1 Disentangling pitch from timbre

### 3.2 Extraneous supervision

### 3.3 Joint supervision

## 4. SINGLE-INSTRUMENT CLASSIFICATION

### 4.1 Experimental design

In order to evaluate the proposed algorithms, we used MedleyDB [1], a dataset of 122 multitracks annotated with instrument activations as well as melodic  $f_0$  curves when present.

### 4.2 Results

## 5. POLYPHONIC CLASSIFICATION

### 5.1 Experimental design

### 5.2 Results

## 6. CONCLUSIONS

## 7. REFERENCES

- [1] Rachel Bittner, Justin Salamon, Mike Tierney, Matthias Mauch, Chris Cannam, and Juan Bello. Medleydb: a multitrack dataset for annotation-intensive mir



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