

# 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.

## 1. INTRODUCTION

### 2. DEEP CONVOLUTIONAL NETWORKS

#### 2.1 Time-frequency representation

#### 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

#### 3.4 Visualization

### 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

### 5. POLYPHONIC CLASSIFICATION

#### 5.1 Experimental design

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



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