

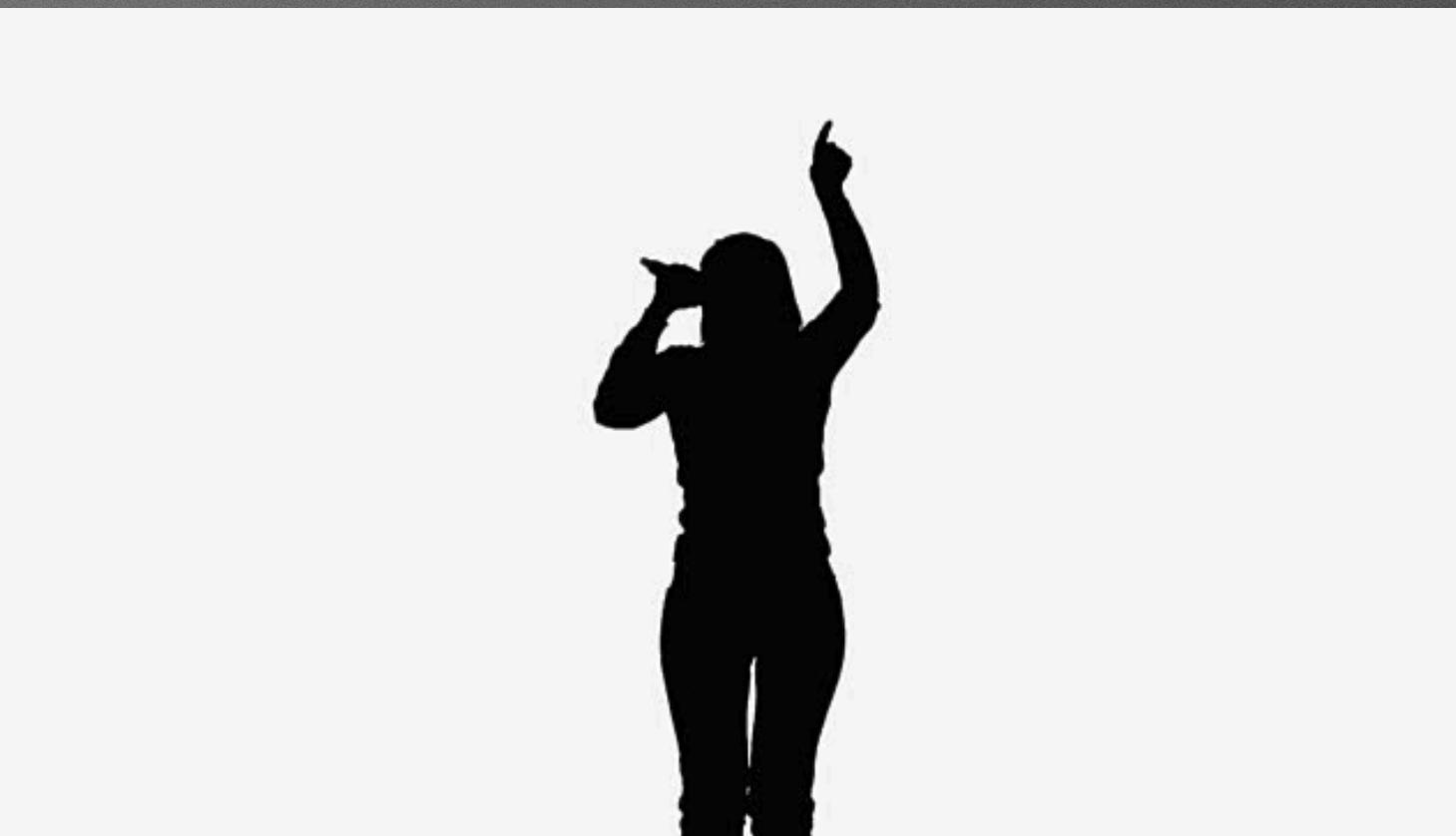
Jazzify

Pairing Pop Melodies with Jazz Accompaniment

Christopher Giler

Background & Motivation

- Use data to study relationship of musical genres
- Using Jazz music to add complexity to pop song instrumentation



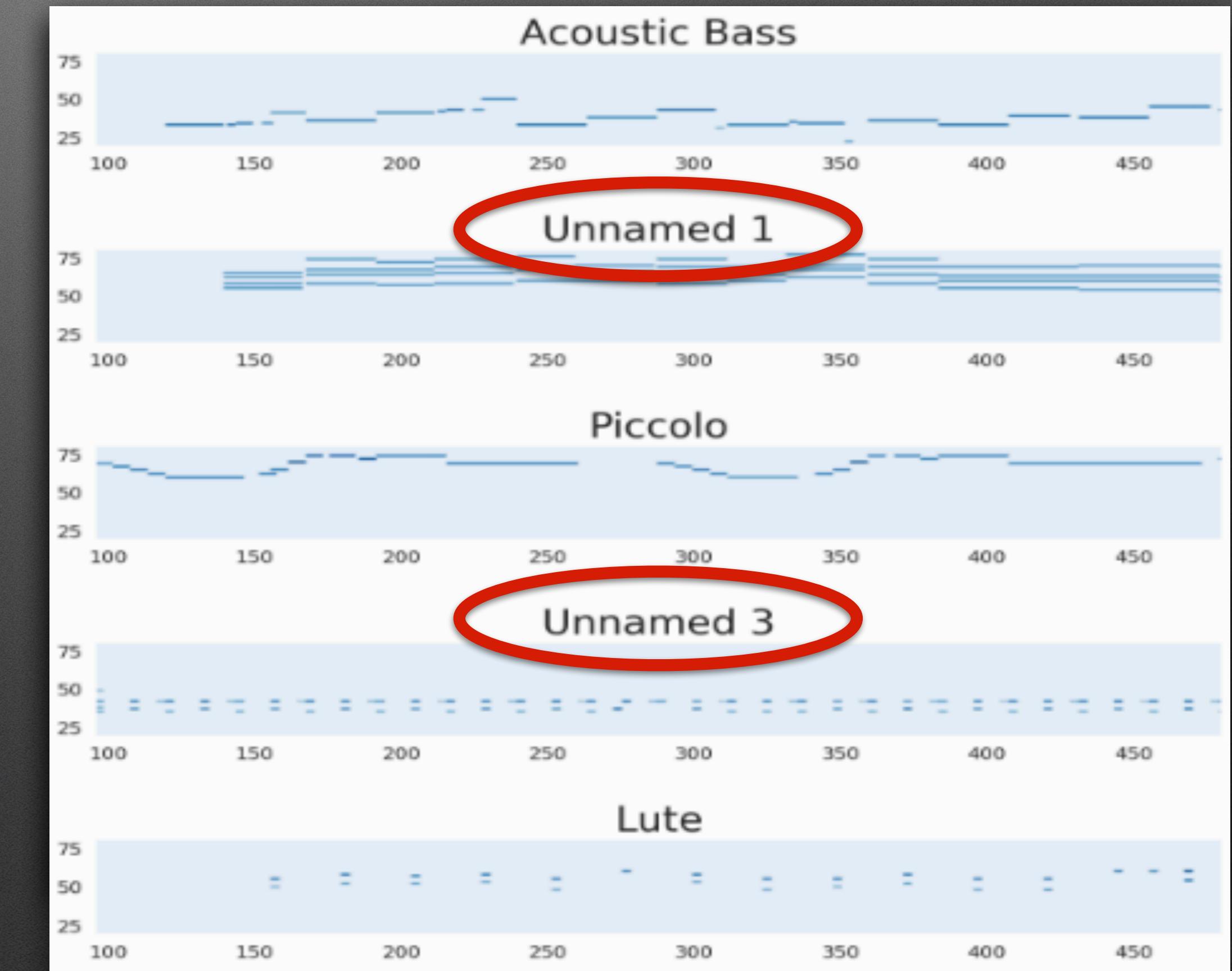
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The Data

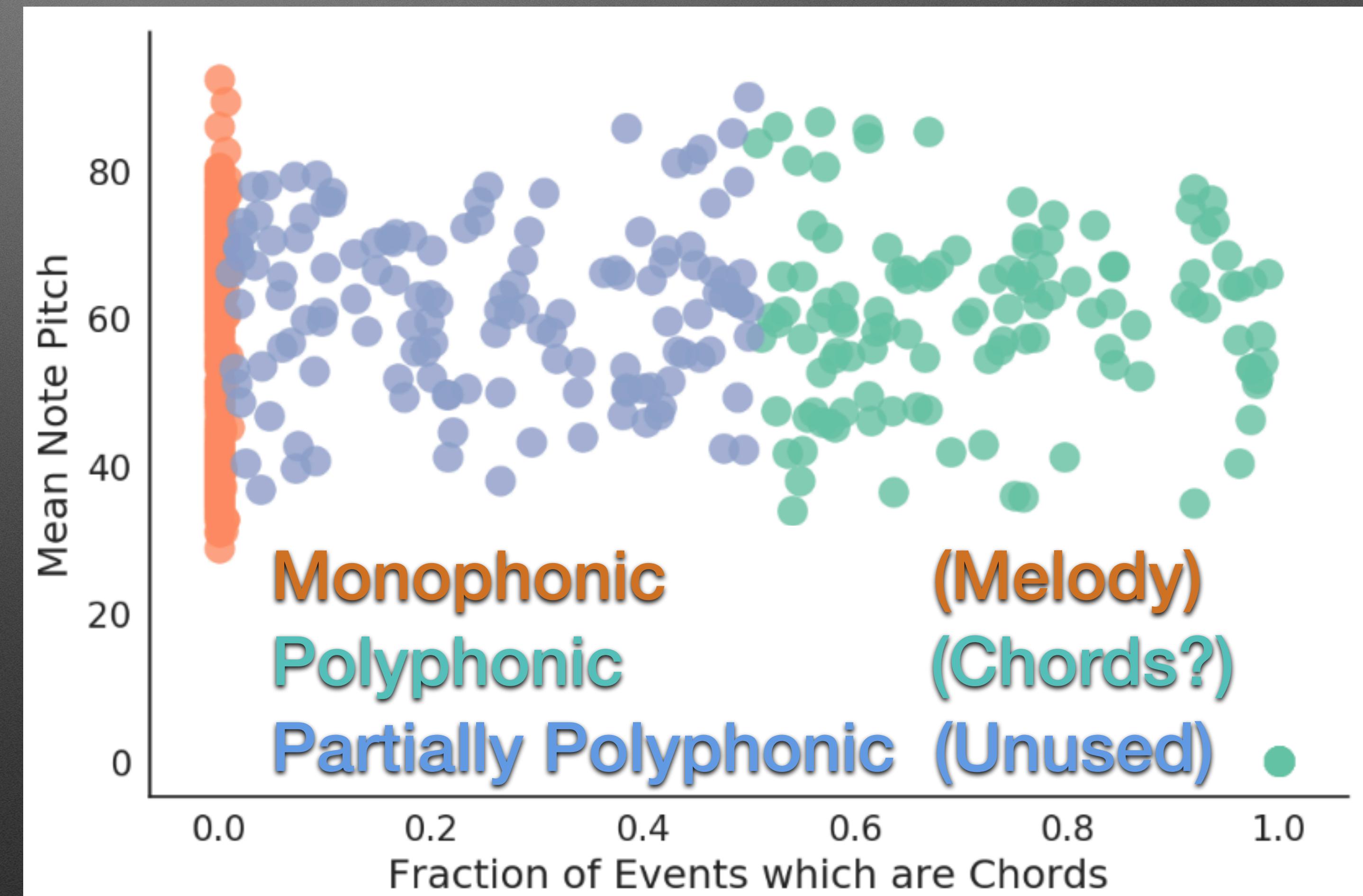
- 120 jazz standards as Musical Instrument Digital Interface (MIDI) files
- Multiple unlabeled or poorly labeled tracks per song

Song Title: Autumn in New York



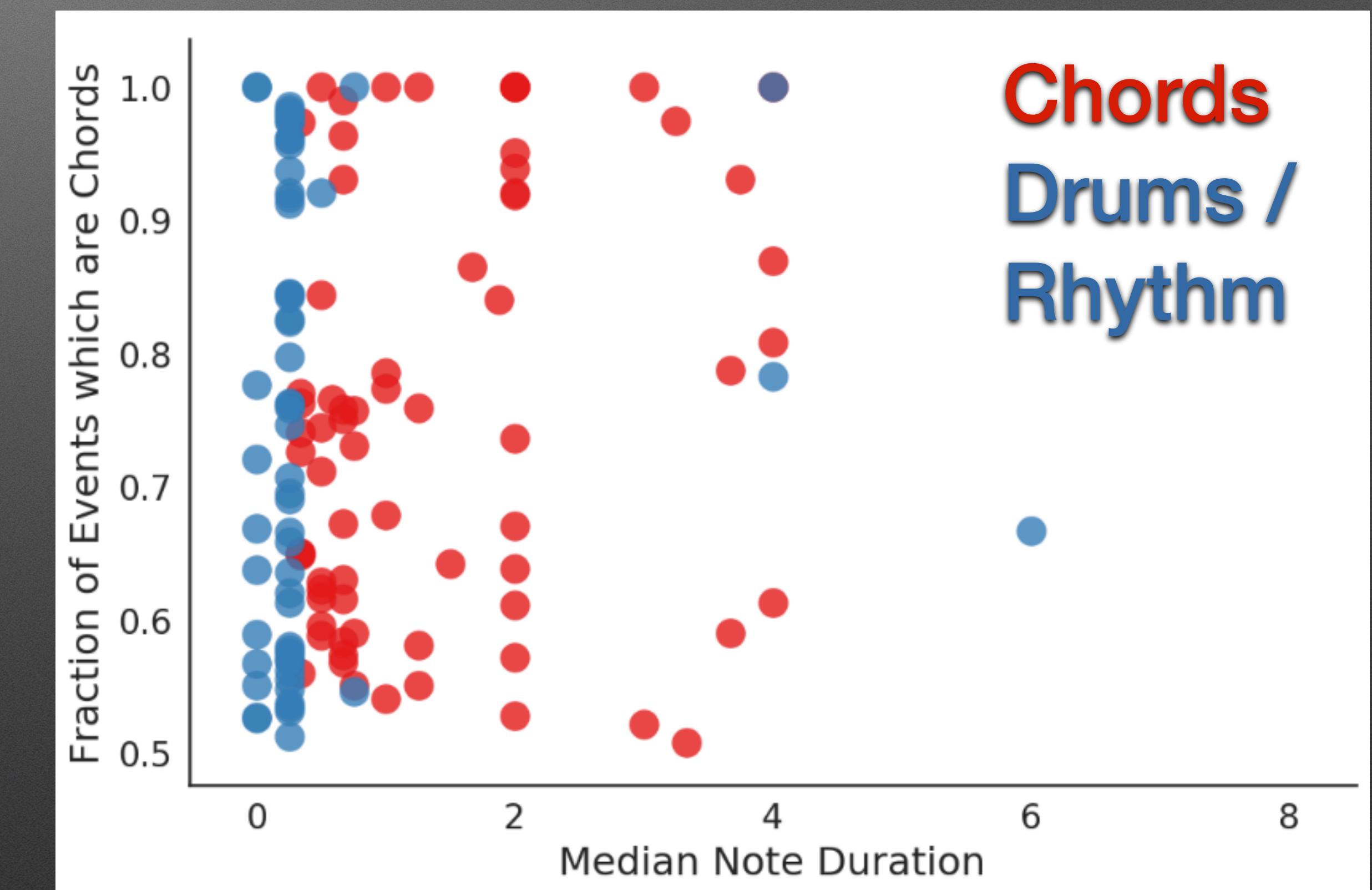
Data Cleaning & Separation

- Filtering to extract tracks containing chord progressions and melodies

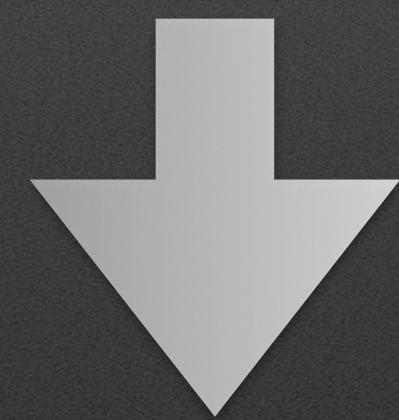
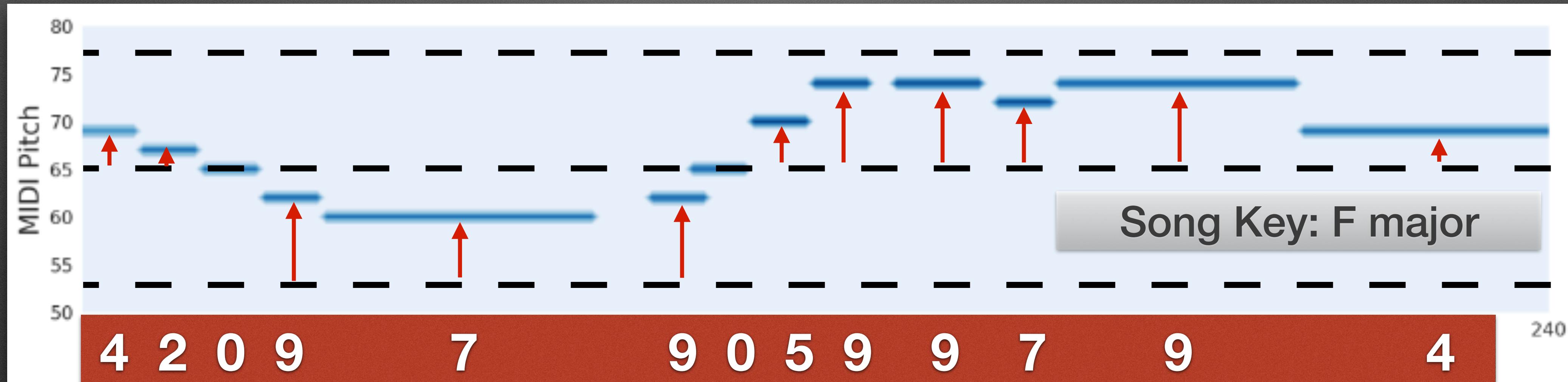


Data Cleaning & Separation (Polyphonic)

- Finding Chords
 - Median Note Duration longer than 1/16th note



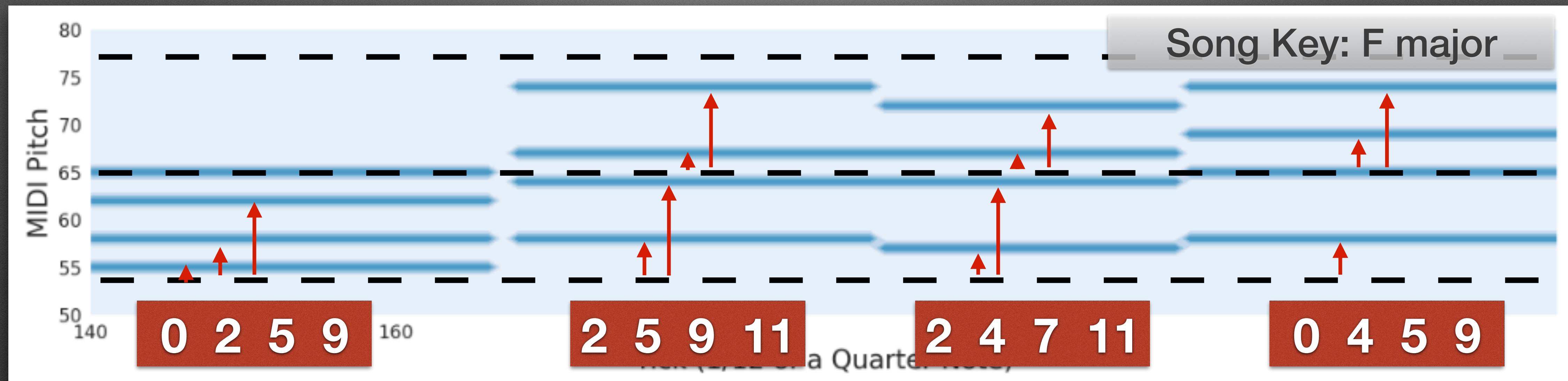
MIDI Data Processing: Melodic Contour Patterns for Relative Pitch



[4, 2, 0, 9, 7, 9, 0, 5, 9, 9, 7, 9, 4]

MIDI Data Processing

Melodic Framework of Chord Progression



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[[0, 2, 5, 9], [2, 5, 9, 11], [2, 4, 7, 11], [0, 4, 5, 9]]
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Calculating Melodic Similarities

Input Melodic Sequence (e.g. Pop Vocal Melody)

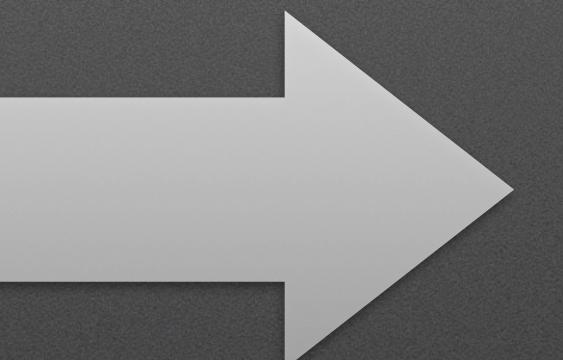
0,10,0,10,7,10,7,10,7,10

Jazz Melodic Sequence (e.g. Piano or Guitar in Jazz Standard)

3,2,5,3,2,3,2,0,5,7,2,5,3,2,3,5,10,7,5,3,5,2,3,5,3,2,0,
2,0,7,10,0,5,7,2,3,5,7,5,9,5,10,7,0,7,2,7,3,5,7,3,5,10,
0,10,9,7,5,3,9,5,4,3,7,5,3,2,5,3,2,0,3,2,0,10,2,0,10,9,
0,10,9,7,10,9,7,5,3,5,0,2,0,7,0,2,3,2,0,5,10,3,5,7,10,0,
7,10,5,9,2,0,5,2,7,5,0,10,9,7,5,3,5,7,2,3,5,0,2,3,2,10,

Input Melodic Sequence (e.g. Pop Vocal Melody)

0,10,0,10,7,10,7,10,7,10



Output Similarity Calculations

Melody ID	Song Name	Distance
127	tutu.mid	34
152	fever.mid	37
83	maputo2.mid	40
150	Brazil.mid	42
166	howhighthemoon.mid	44
195	killerjoe.mid	45
139	thismasquerade.mid	49
92	funnyvalentine.mid	50
234	lullabyofbirdland.mid	50
65	resolution.mid	51



Thank You!

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