

Ó, Ó, Menino Ó

Music21

Original

TIV Euclidean 0.25

TIV Euclidean 0.5

TIV Euclidean 0.75

Original

TIV Cosine 0.25

TIV Cosine 0.5

TIV Cosine 0.75

The image displays a musical score for the song "Ó, Ó, Menino Ó" in 4/4 time. The score is presented in two systems, each containing four staves. The first system shows the original melody and its TIV (Tonal Interval Vector) processed versions using Euclidean distance at thresholds of 0.25, 0.5, and 0.75. The second system shows the original melody and its TIV processed versions using Cosine distance at the same thresholds. The original melody is written in treble clef with a key signature of one sharp (F#). The TIV processed versions show how the melody changes as the threshold increases, with some notes being replaced by rests or other intervals.

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Original

TIV Euclidean 0.25

TIV Euclidean 0.5

TIV Euclidean 0.75

Original

TIV Cosine 0.25

TIV Cosine 0.5

TIV Cosine 0.75

The image displays a musical score with two systems of staves. Each system contains four staves. The first staff in each system is the 'Original' melody. The subsequent three staves show the results of TIV processing using different metrics and thresholds. The first system uses the Euclidean metric with thresholds of 0.25, 0.5, and 0.75. The second system uses the Cosine metric with the same thresholds. The 'Original' melody is a sequence of notes: G4, A4, B4, C#5, D5, E5, F#5, G5, A5, B5, C6, D6, E6, F#6, G6, A6, B6, C7, D7, E7, F#7, G7, A7, B7, C8, D8, E8, F#8, G8, A8, B8, C9, D9, E9, F#9, G9, A9, B9, C10, D10, E10, F#10, G10, A10, B10, C11, D11, E11, F#11, G11, A11, B11, C12, D12, E12, F#12, G12, A12, B12, C13, D13, E13, F#13, G13, A13, B13, C14, D14, E14, F#14, G14, A14, B14, C15, D15, E15, F#15, G15, A15, B15, C16, D16, E16, F#16, G16, A16, B16, C17, D17, E17, F#17, G17, A17, B17, C18, D18, E18, F#18, G18, A18, B18, C19, D19, E19, F#19, G19, A19, B19, C20, D20, E20, F#20, G20, A20, B20, C21, D21, E21, F#21, G21, A21, B21, C22, D22, E22, F#22, G22, A22, B22, C23, D23, E23, F#23, G23, A23, B23, C24, D24, E24, F#24, G24, A24, B24, C25, D25, E25, F#25, G25, A25, B25, C26, D26, E26, F#26, G26, A26, B26, C27, D27, E27, F#27, G27, A27, B27, C28, D28, E28, F#28, G28, A28, B28, C29, D29, E29, F#29, G29, A29, B29, C30, D30, E30, F#30, G30, A30, B30, C31, D31, E31, F#31, G31, A31, B31, C32, 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B298, C299, D299, E299, F#299, G299, A299, B299, C300, D300, E300, F#300, G300, A300, B300, C301, D301, E301, F#301, G301, A301, B301, C302, D302, E302, F#302, G302, A302, B302, C303, D303, E303, F#303, G303, A303, B303, C304, D304, E304, F#304, G304, A304, B304, C305, D305, E305, F#305, G305, A305, B305, C306, D306, E306, F#306, G306, A306, B306, C307, D307, E307, F#307, G307, A307, B307, C308, D308, E308, F#308, G308, A308, B308, C309, D309, E309, F#309, G309, A309, B309, C310, D310, E310, F#310, G310, A310, B310, C311, D311, E311, F#311, G311, A311, B311, C312, D312, E312, F#312, G312, A312, B312, C313, D313, E313, F#313, G313, A313, B313, C314, D314, E314, F#314, G314, A314, B314, C315, D315, E315, F#315, G315, A315, B315, C316, D316, E316, F#316, G316, A316, B316, C317, D317, E317, F#317, G317, A317, B317, C318, D318, E318, F#318, G318, A318, B318, C319, D319, E319, F#319, G319, A319, B319, C320, D320, E320, F#320, G320, A320, B320, C321, D321, E321, F#321, G321, A321, B321, C322, D322, E322, F#322, G322, A322, B322, C323, D323, E323, F#323, G323, A323, B323, C324, D324, E324, F#324, G324, A324, B324, C325, D325, E325, F#325, G325, A325, B325, C326, D326, E326, F#326, G326, A326, B326, C327, D327, E327, F#327, G327, A327, B327, C328, D328, E328, F#328, G328, A328, B328, C329, D329, E329, F#329, G329, A329, B329, C330, D330, E330, F#330, G330, A330, B330, C331, D331, E331, F#331, G331, A331, B331, C332, D332, E332, F#332, G332, A332, B332, C333, D333, E333, F#333, G333, A333, B333, C334, D334, E334, F#334, G334, A334, B334, C335, D335, E335, F#335, G335, A335, B335, C336, D336, E336, F#336, G336, A336, B336, C337, D337, E337, F#337, G337, A337, B337, C338, D338, E338, F#338, G338, A338, B338, C339, D339, E339, F#339, G339, A339, B339, C340, D340, E340, F#340, G340, A340, B340, C341, D341, E341, F#341, G341, A341, B341, C342, D342, E342, F#342, G342, A342, B342, C343, D343, E343, F#343, G343, A343, B343, C344, D344, E344, F#344, G344, A344, B344, C345, D345, E345, F#345, G345, A345, B345, C346, D346, E346, F#346, G346, A346, B346, C347, D347, E347, F#347, G347, A347, B347, C348, D348, E348, F#348, G348, A348, B348, C349, D349, E349, F#349, G349, A349, B349, C350, D350, E350, F#350, G350, A350, B350, C351, D351, E351, F#351, G351, A351, B351, C352, D352, E352, F#352, G352, A352, B352, C353, D353, E353, F#353, G353, A353, B353, C354, D354, E354, F#354, G354, A354, B354, C355, D355, E355, F#355, G355, A355, B355, C356, D356, E356, F#356, G356, A356, B356, C357, D357, E357, F#357, G357, A357, B357, C358, D358, E358, F#358, G358, A358, B358, C359, D359, E359, F#359, G359,

14

Original

TIV Euclidean 0.25

TIV Euclidean 0.5

TIV Euclidean 0.75

Original

TIV Cosine 0.25

TIV Cosine 0.5

TIV Cosine 0.75

The image displays a musical score with eight staves, organized into two groups of four. Each group begins with an 'Original' staff, followed by three 'TIV' (Tonal Interval Variance) processed versions using either Euclidean or Cosine metrics at thresholds of 0.25, 0.5, and 0.75. The music is written in treble clef with a key signature of one sharp (F#). The original melody consists of eighth and quarter notes. The TIV processed versions show varying degrees of rhythmic and pitch alteration, with the 0.25 threshold version being the most simplified and the 0.75 threshold version being the most complex, closely resembling the original. The 'TIV Cosine 0.25' staff includes a whole rest in the second measure, while the other TIV versions have notes in that measure.

20

Original

TIV Euclidean 0.25

TIV Euclidean 0.5

TIV Euclidean 0.75

Original

TIV Cosine 0.25

TIV Cosine 0.5

TIV Cosine 0.75

The image displays a musical score with two systems of staves. Each system contains four staves. The first staff in each system is the 'Original' melody. The subsequent three staves show the results of TIV processing using different metrics and thresholds. The first system uses the Euclidean metric with thresholds of 0.25, 0.5, and 0.75. The second system uses the Cosine metric with the same thresholds. The notation includes treble clefs, a key signature of one sharp (F#), and a 4/4 time signature. The original melody consists of eighth and quarter notes. The TIV processed versions show increasing simplification and quantization as the threshold increases, with more notes being replaced by rests or simplified rhythmic patterns.

26

Original

TIV Euclidean 0.25

TIV Euclidean 0.5

TIV Euclidean 0.75

Original

TIV Cosine 0.25

TIV Cosine 0.5

TIV Cosine 0.75

The image displays a musical score for a melody in G major, 4/4 time, starting at measure 26. The score is organized into two systems, each containing five staves. The first system shows the 'Original' melody and its TIV (Time-Varying) versions using the Euclidean metric at thresholds of 0.25, 0.5, and 0.75. The second system shows the 'Original' melody and its TIV versions using the Cosine metric at the same thresholds. The original melody consists of the following notes: G4 (quarter), A4 (quarter), B4 (quarter), C#5 (quarter), B4 (quarter), A4 (quarter), G4 (half). The TIV versions show varying degrees of rhythmic and pitch alteration based on the threshold value. For example, at a threshold of 0.25, the TIV Euclidean version shows significant rhythmic alteration, while the TIV Cosine version shows more pitch alteration. As the threshold increases to 0.75, the TIV versions become more similar to the original melody.

Ó, Ó, Menino Ó

Music21

Original

Metric 0.25

Metric 0.5

Metric 0.75

This system contains four staves. The top staff, labeled 'Original', is in 4/4 time and contains a melody of eighth and quarter notes with sharps. The three staves below, labeled 'Metric 0.25', 'Metric 0.5', and 'Metric 0.75', show the same melody with stems and beams removed, leaving only the note heads and accidentals to represent the metric structure at those levels.

8

Original

Metric 0.25

Metric 0.5

Metric 0.75

This system contains four staves. The top staff, labeled 'Original', is marked with a '8' at the beginning and contains a melody of eighth and quarter notes. The three staves below, labeled 'Metric 0.25', 'Metric 0.5', and 'Metric 0.75', show the metric structure of the melody at those levels, with stems and beams removed.

16

Original

Metric 0.25

Metric 0.5

Metric 0.75

This system contains four staves. The top staff, labeled 'Original', is marked with a '16' at the beginning and contains a melody of eighth and quarter notes. The three staves below, labeled 'Metric 0.25', 'Metric 0.5', and 'Metric 0.75', show the metric structure of the melody at those levels, with stems and beams removed.

22

Original

Metric 0.25

Metric 0.5

Metric 0.75

This block contains the musical notation for measures 22 through 28. It consists of four staves. The 'Original' staff shows a melody in G major with eighth and quarter notes. The 'Metric 0.25' staff shows a rhythmic pattern with eighth and quarter notes, some with stems only. The 'Metric 0.5' staff shows a similar rhythmic pattern but with some notes replaced by stems only. The 'Metric 0.75' staff shows a rhythmic pattern with eighth and quarter notes, some with stems only. The measures are grouped by a brace on the left.

29

Original

Metric 0.25

Metric 0.5

Metric 0.75

This block contains the musical notation for measure 29. It consists of four staves. The 'Original' staff shows a melody in G major with a quarter note and a dotted half note. The 'Metric 0.25' staff shows a rhythmic pattern with a quarter note and a dotted half note. The 'Metric 0.5' staff shows a rhythmic pattern with a quarter note and a dotted half note. The 'Metric 0.75' staff shows a rhythmic pattern with a quarter note and a dotted half note. The measures are grouped by a brace on the left.

Ó, Ó, Menino Ó

Music21

Original

Intervallic 0.25

Intervallic 0.5

Intervallic 0.75

This system contains the first six measures of the piece. The 'Original' staff shows a melody in 4/4 time with a key signature of one sharp (F#). The 'Intervallic 0.25' staff uses eighth notes and rests to approximate the original melody. The 'Intervallic 0.5' staff uses quarter notes and rests. The 'Intervallic 0.75' staff uses half notes and rests.

8

Original

Intervallic 0.25

Intervallic 0.5

Intervallic 0.75

This system contains measures 7 through 12. It continues the melodic and harmonic development of the piece, with the intervallic versions following the same rhythmic and pitch patterns as the original.

16

Original

Intervallic 0.25

Intervallic 0.5

Intervallic 0.75

This system contains measures 13 through 18. The piece concludes with a final cadence in the original and intervallic versions.

22

Original

Intervallic 0.25

Intervallic 0.5

Intervallic 0.75

Ó, Ó, Menino Ó

Music21

Original

All Euclidean 0.25

All Euclidean 0.5

All Euclidean 0.75

Original

All Cosine 0.25

All Cosine 0.5

All Cosine 0.75

The image displays a musical score for the song 'Ó, Ó, Menino Ó' in 4/4 time. The score is organized into two systems, each containing four staves. The first system shows the 'Original' melody and three variations generated using the 'All Euclidean' algorithm with parameters 0.25, 0.5, and 0.75. The second system shows the 'Original' melody and three variations generated using the 'All Cosine' algorithm with parameters 0.25, 0.5, and 0.75. The original melody consists of six measures: 1. G4 (quarter), A#4 (quarter), B4 (quarter), A#4 (quarter). 2. G4 (quarter), A#4 (quarter), B4 (quarter), A#4 (quarter). 3. G4 (half). 4. G4 (quarter), A#4 (quarter), B4 (quarter), A#4 (quarter). 5. G4 (quarter), A#4 (quarter), B4 (quarter), A#4 (quarter). 6. G4 (half), A#4 (quarter), B4 (quarter), A#4 (quarter). The generated versions show how the algorithm approximates the original melody with different levels of accuracy, indicated by the parameter values.

7

Original

All Euclidean 0.25

All Euclidean 0.5

All Euclidean 0.75

Original

All Cosine 0.25

All Cosine 0.5

All Cosine 0.75

The image displays a musical score with eight staves, organized into two groups of four. Each group begins with an 'Original' staff, followed by three reconstructed versions using different methods and parameters. The first group uses the 'All Euclidean' method with parameters 0.25, 0.5, and 0.75. The second group uses the 'All Cosine' method with the same parameters. The 'Original' staff in each group shows a melody in treble clef with a key signature of one sharp (F#). The reconstructed staves show how the Euclidean and Cosine methods approximate the original melody at different levels of complexity or similarity. The Euclidean method shows more rhythmic variation, while the Cosine method shows more pitch variation. The parameter values (0.25, 0.5, 0.75) likely represent a scale of approximation, with 0.25 being the least similar and 0.75 being the most similar to the original.

14

Original

All Euclidean 0.25

All Euclidean 0.5

All Euclidean 0.75

Original

All Cosine 0.25

All Cosine 0.5

All Cosine 0.75

The image displays a musical score with two systems of staves. Each system contains five staves. The first staff in each system is the 'Original' melody. The subsequent staves show reconstructions using different methods and parameters. The first system uses the 'All Euclidean' method with parameters 0.25, 0.5, and 0.75. The second system uses the 'All Cosine' method with parameters 0.25, 0.5, and 0.75. The notation is in treble clef with a key signature of one sharp (F#). The original melody starts at measure 14. The reconstructions show varying degrees of similarity to the original as the parameter value increases from 0.25 to 0.75.

20

Original

All Euclidean 0.25

All Euclidean 0.5

All Euclidean 0.75

Original

All Cosine 0.25

All Cosine 0.5

All Cosine 0.75

The image displays a musical score with two systems of staves. Each system contains seven staves. The first staff in each system is labeled 'Original' and shows a melody in treble clef with a key signature of one sharp (F#). The melody consists of six measures. The subsequent staves in each system show reconstructions of the original melody using different methods and parameters. The first system uses the 'All Euclidean' method with parameters 0.25, 0.5, and 0.75. The second system uses the 'All Cosine' method with parameters 0.25, 0.5, and 0.75. The notation includes various note values (quarter, eighth, and sixteenth notes), rests, and accidentals (sharps and naturals). The 'Original' staff starts with a half note G4, followed by quarter notes A4, B4, and C5 in the first measure. The 'All Euclidean' and 'All Cosine' reconstructions show varying degrees of approximation to the original melody, with some notes being replaced by rests or different note values.

26

Original

All Euclidean 0.25

All Euclidean 0.5

All Euclidean 0.75

Original

All Cosine 0.25

All Cosine 0.5

All Cosine 0.75

The image displays a musical score with eight staves, each containing a melody. The staves are grouped into two sets of four. The first set of four staves is labeled 'Original', 'All Euclidean 0.25', 'All Euclidean 0.5', and 'All Euclidean 0.75'. The second set of four staves is labeled 'Original', 'All Cosine 0.25', 'All Cosine 0.5', and 'All Cosine 0.75'. The 'Original' staves show a melody starting on a middle C, moving up stepwise to a D, then a sharp F, and finally a G. The 'All Euclidean' staves show a melody that is a more complex, stepped version of the original, with many notes on the same pitch. The 'All Cosine' staves show a melody that is a more complex, stepped version of the original, with many notes on the same pitch. The 'All Euclidean 0.75' and 'All Cosine 0.75' staves show a melody that is a more complex, stepped version of the original, with many notes on the same pitch.