



- HUMMING BIRD -

Curriculum Project:

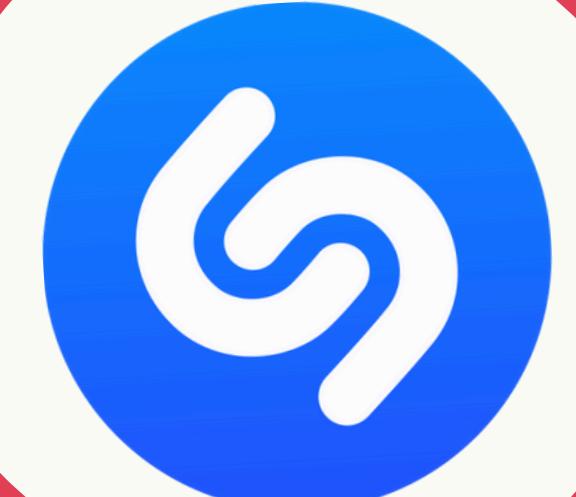
Cheyenne Lu

PURPOSE

Song stuck in my head? How
can I figure it out when I
don't have lyrics?

Shazam, but for humming, but
for classical music

Shazam



Google Hum

HOW IT WORKS



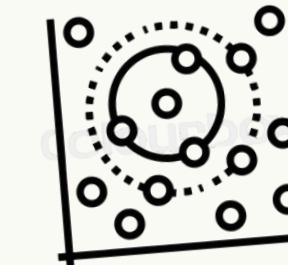
Splice MP3 to numbers



• Humming Bird •

Start Listening

Output Prediction

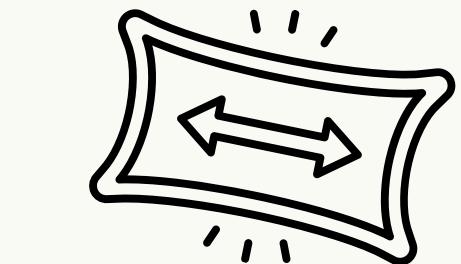


K Nearest Neighbor

♪ Final Predicted Song:

⌛ Waiting for prediction...

Dynamic Time Warping



Apply to Input

WHAT I USED

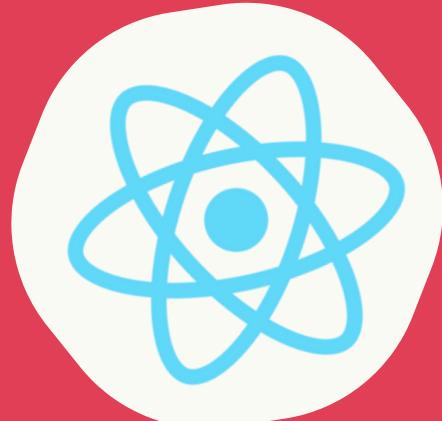
1. Youtube mp3 free converter



2. Librosa Library



3. React Js



4. FastAPI



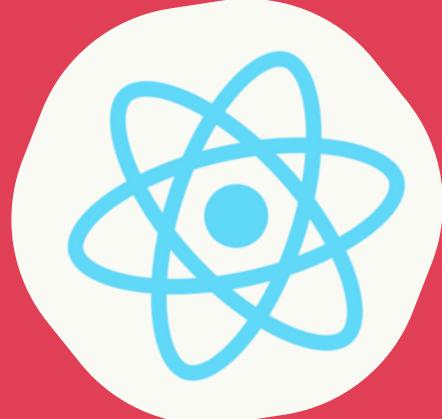
WHAT I USED

1. Youtube mp3 free converter

EzMP3



FastAPI



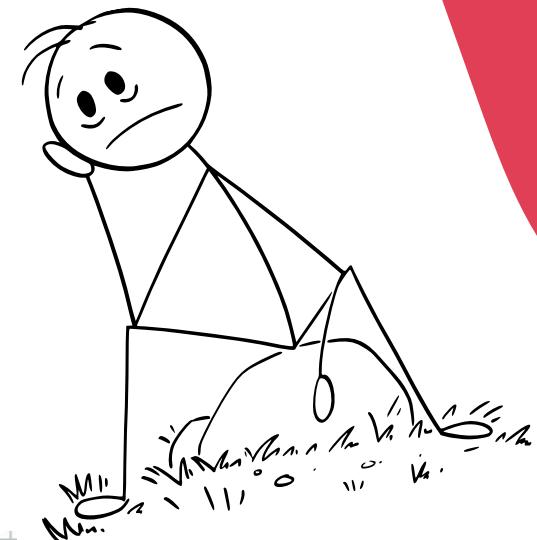


**SO...HOW WELL
DOES IT WORK**

NOT VERY BEST...



By Chance: 1.96%

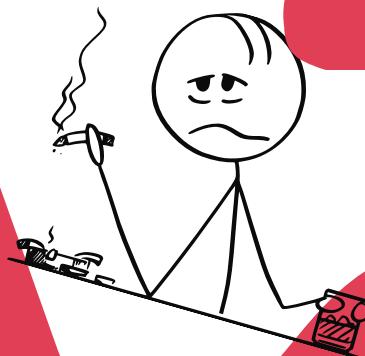


3.3%

%	3)	1	2	3
	Bach Cello Concerto No. 2, Concerto E Minor No. 5 in D major			
	Glazunov The Nutcracker Suite			
	Claire de lune Handel - Messiah	Concerto No. 2, Concerto in A minor		
	L'isle Joyeuse Dvorak Concerto No. 2, Symphony No. 40 (first movement No. 5 - Andante)			
	Dvorak Symphony No. 5 - AD Minor, Op. 12 Concerto No. 2, Concerto E Minor			
	Dvorak Humoresque Concerto E Minor/Garian Rhapsody 9 (From the Nutcracker)			
	Eine Klein Nachtmusik Concerto E Minor Etude Op. 10 No. 1	Nachtmusik		
	Wedding March Concerto No. 2, Concerto E Minor No. 9 (From the Nutcracker)			
	bumblebee Concerto E Minor Fireworks, Holst	(12 variations)		
	Peer Gynt Concerto E Minor Queen of the Night - Peer Gynt Concerto E Minor of Man's Desires			

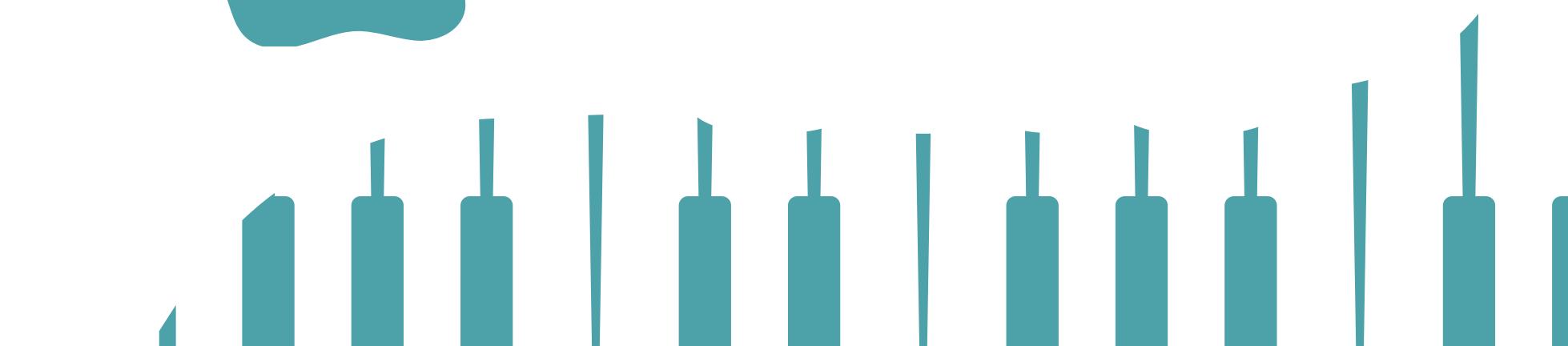
$k=4$ chain = 5

$k=3$ chain = 5



3.3%

$k=5$ chain = 4





CHALLENGES AND IMPROVEMENTS

ACCURACY

Oversimplification of melody

Longer pieces higher chance of detection

Mic too sensitave

Entire song vs
“hummable” slice



THANK YOU FOR LISTENING!

Shoutout to Isaac & Bree 