


# Fingering Classification for Strings



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# Purpose of Project



When a musician get a new music they never played before,  
what would be the first thing to do?

There exist multiple ways to play same note,  
using different fingering, string and position


The diagram illustrates the fingering and positions for the four strings of a cello. It is organized into four columns: Open, 1st Position, 2nd Position, and 3rd Position. Each column shows the notes for the A, D, G, and C strings, with fingerings indicated by numbers 0-4. The notes are written on a five-line staff with a bass clef. The strings are color-coded: A string (green), D string (orange), G string (blue), and C string (red). The notes are also color-coded to match the string they belong to. The diagram shows that many notes can be played in multiple ways, for example, the note G can be played on the A string in 1st position with the 3rd finger, on the D string in 1st position with the 2nd finger, on the G string in 1st position with the 1st finger, or on the C string in 1st position with the 4th finger.

	Open	1st Position					2nd Position				3rd Position			
	0	1	1	2	3	4	1	2	3	4	1	2	3	4
A string	C2	B1	Bb1	A1	G#1	G1	F#1	F1	E1	Eb1	D#1	D1	C#1	C1
D string	C2	B1	Bb1	A1	G#1	G1	F#1	F1	E1	Eb1	D#1	D1	C#1	C1
G string	C2	B1	Bb1	A1	G#1	G1	F#1	F1	E1	Eb1	D#1	D1	C#1	C1
C string	C2	B1	Bb1	A1	G#1	G1	F#1	F1	E1	Eb1	D#1	D1	C#1	C1

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Depending on which fingering, string and position musician is taking,  
Music will be expressed in different tone.



Thus, determining fingering is one of the important  
& **time consuming work** for string musicians

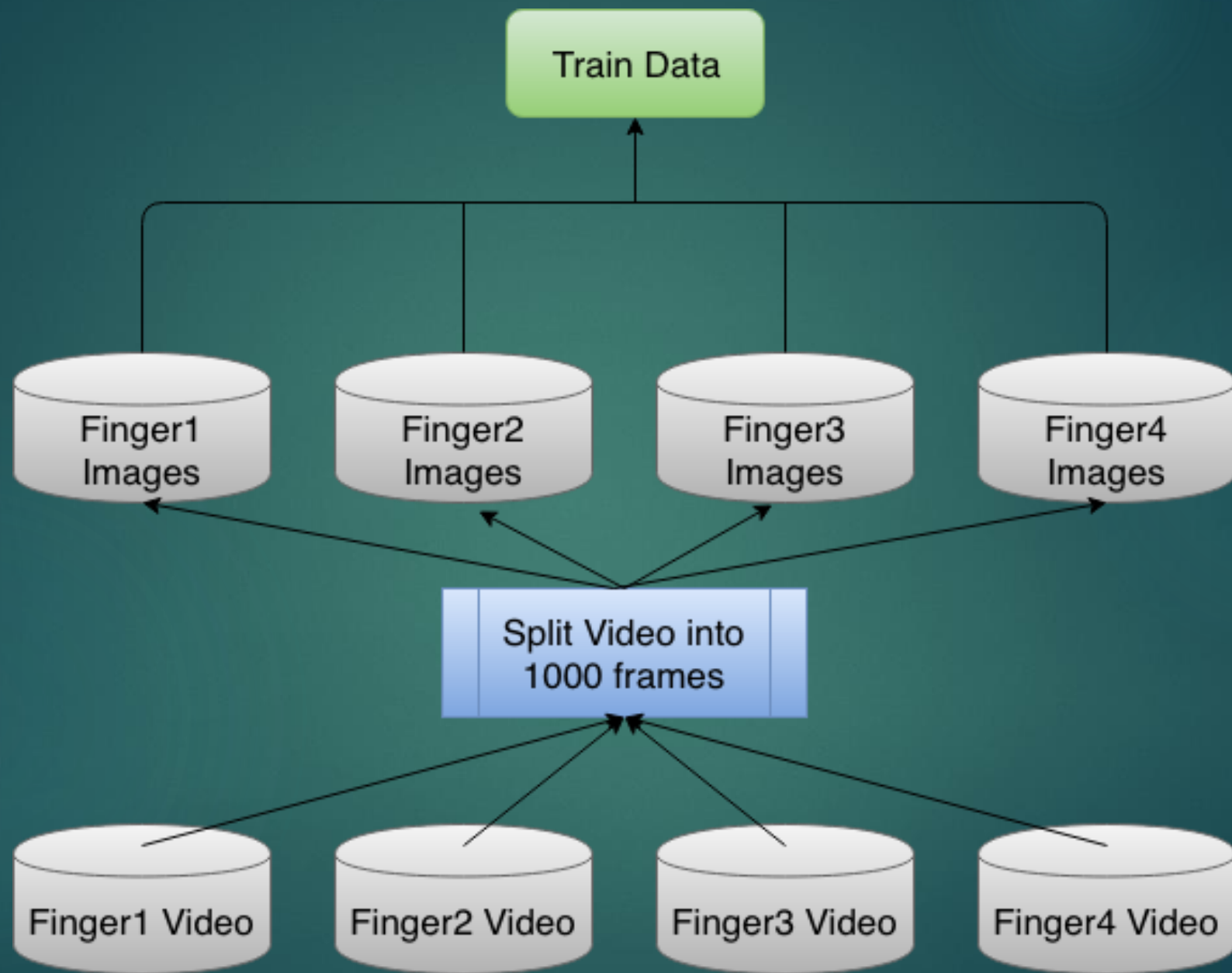


This project aims to:

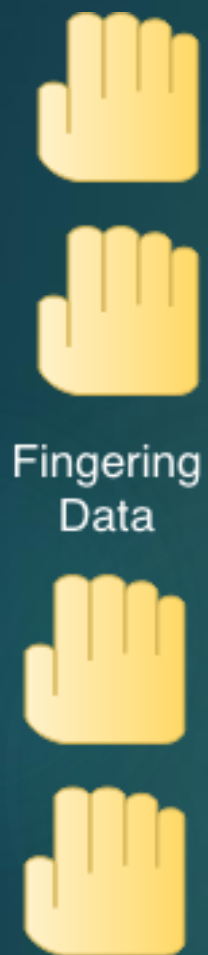
- Create functionality that returns sequence of fingerings provided with video of musician playing music of interest.
- Help musician saving time to start with new music.



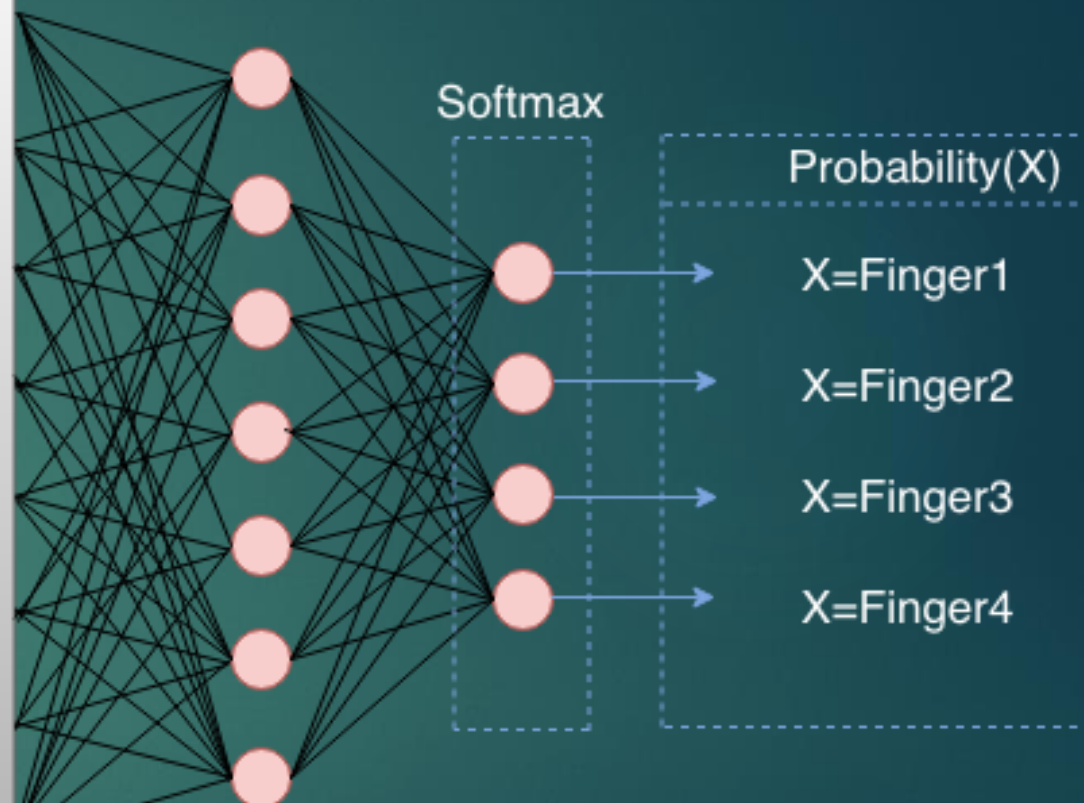
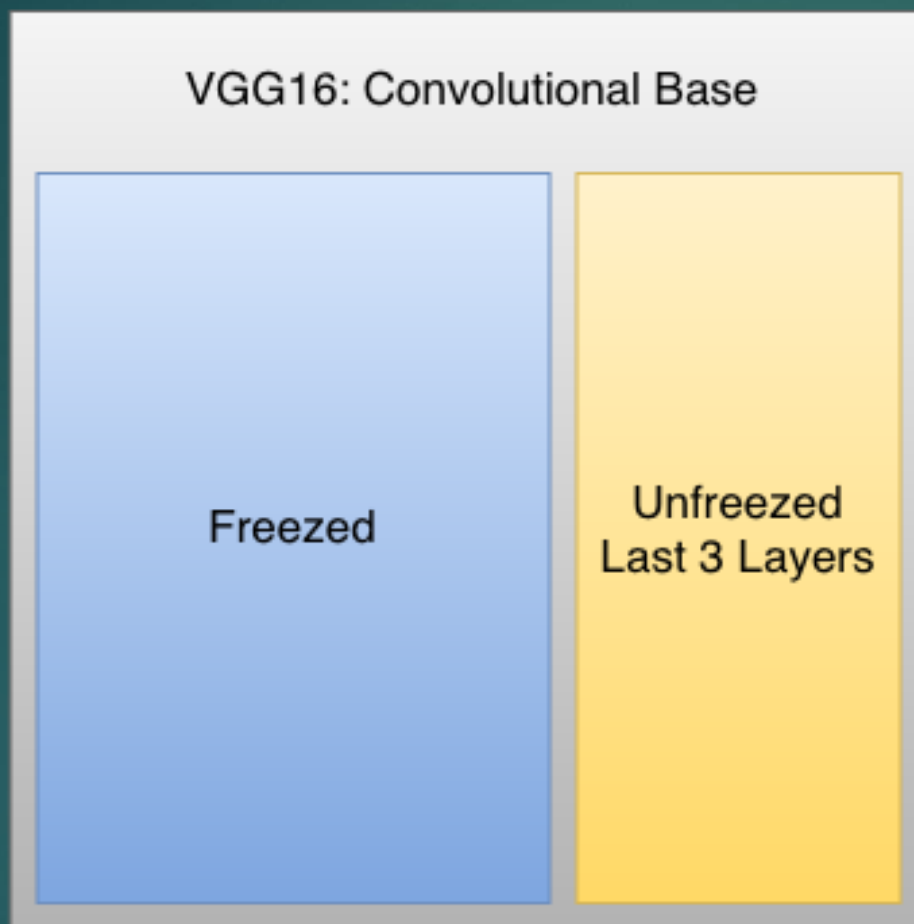
# Data Preparation



# Model Training

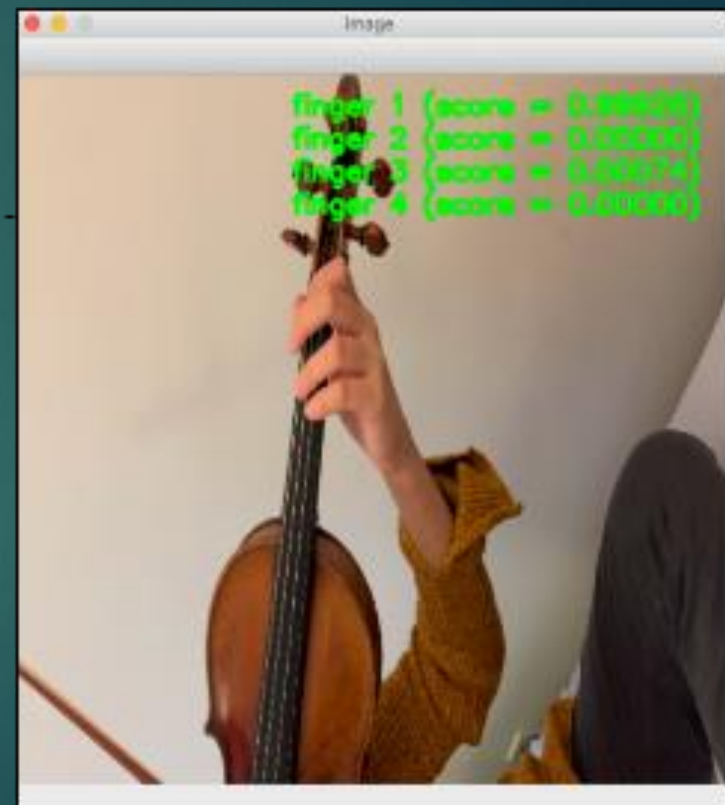
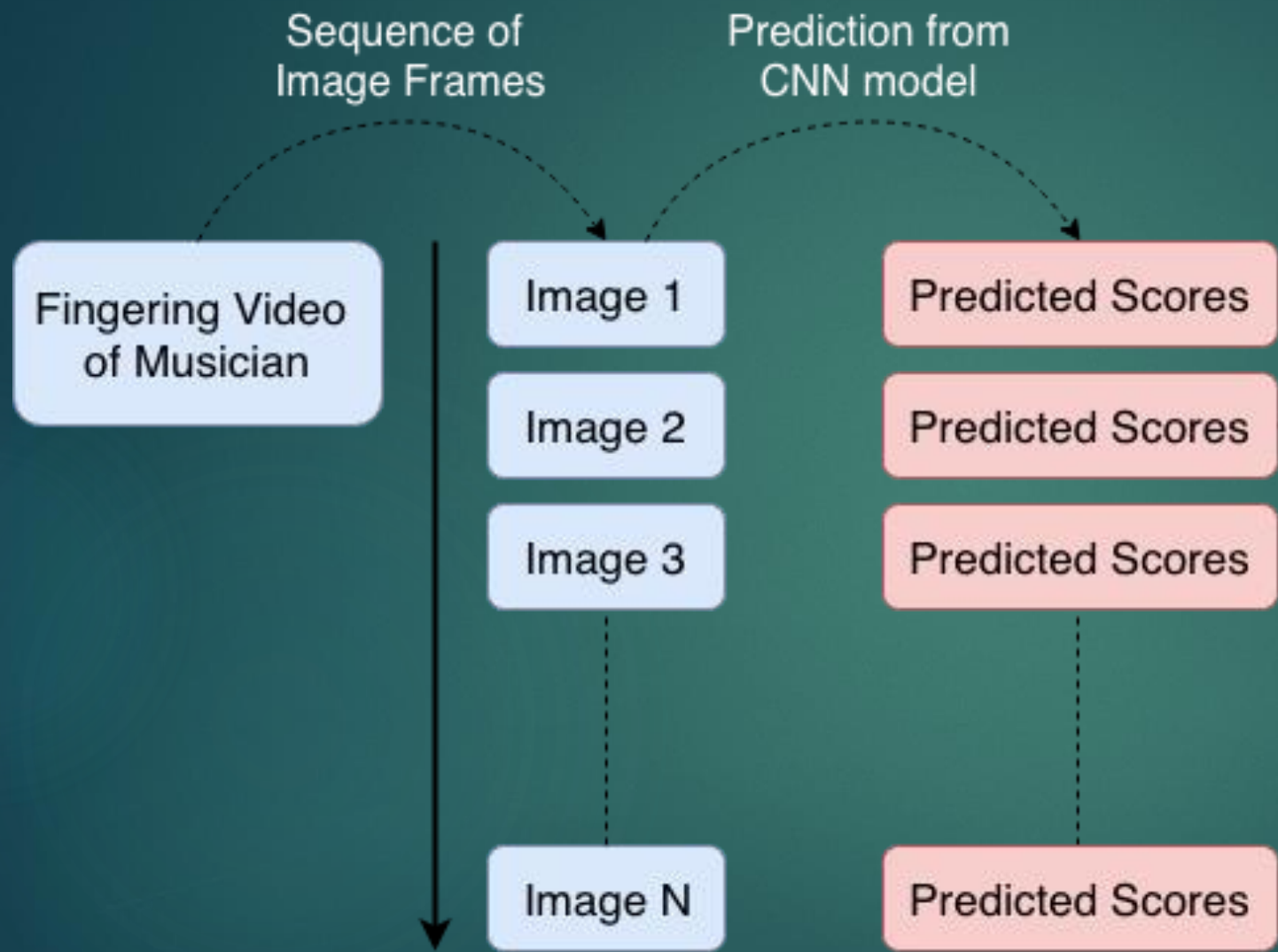


Fingering  
Data



Training Accuracy: 1  
Validation Accuracy: 1  
Test Accuracy: 0.7775

# Implementation



Thank you