

Comparison of Machine Learning Frameworks on Mobile

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Introduction

The objective of this project is to compare between different mobile object recognition frameworks. Comparison is made based on accuracy, faster image processing, running trained models locally or through internet. This comparison in mobile frameworks will facilitate the better usability of different mobile object recognition frameworks in mobile devices to recognize and identify unknown objects moving forward.

Frameworks

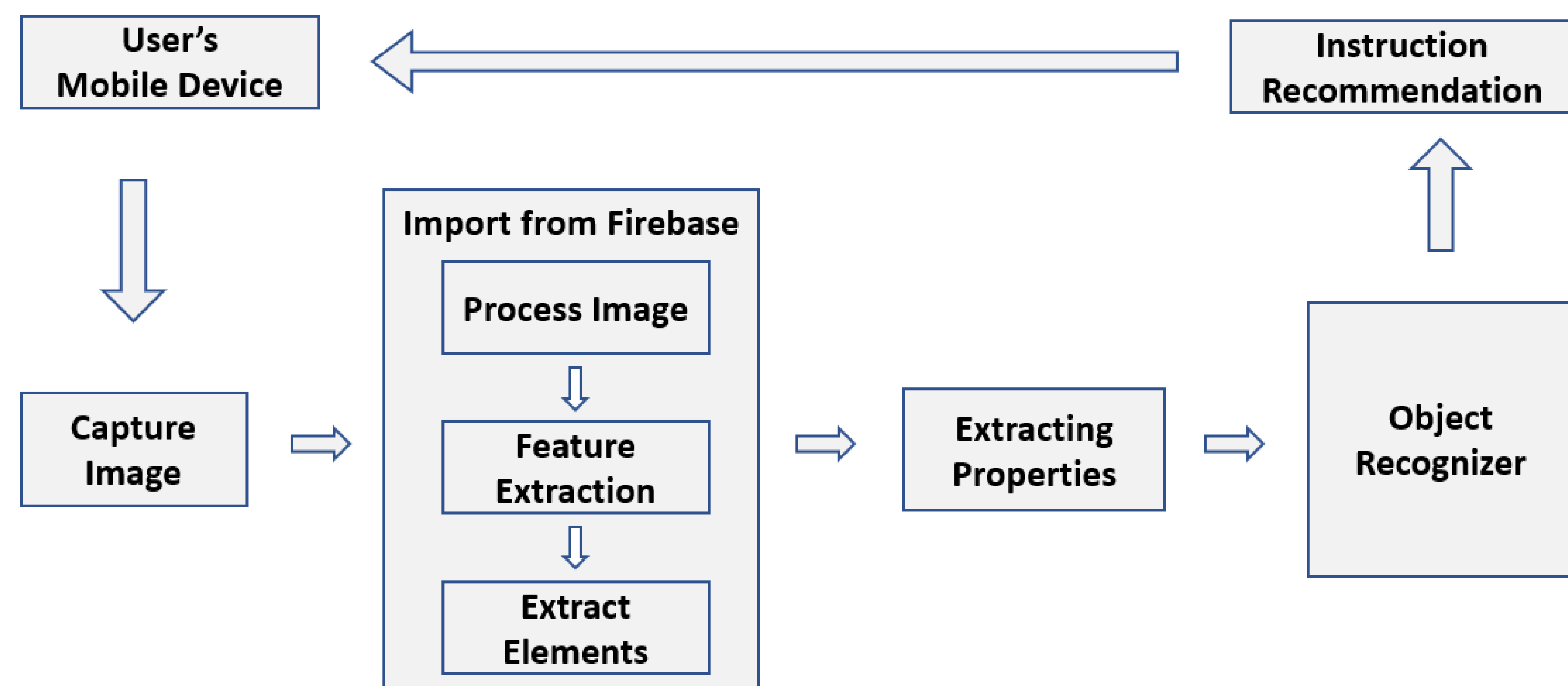


Figure 2. ML Kit Framework.

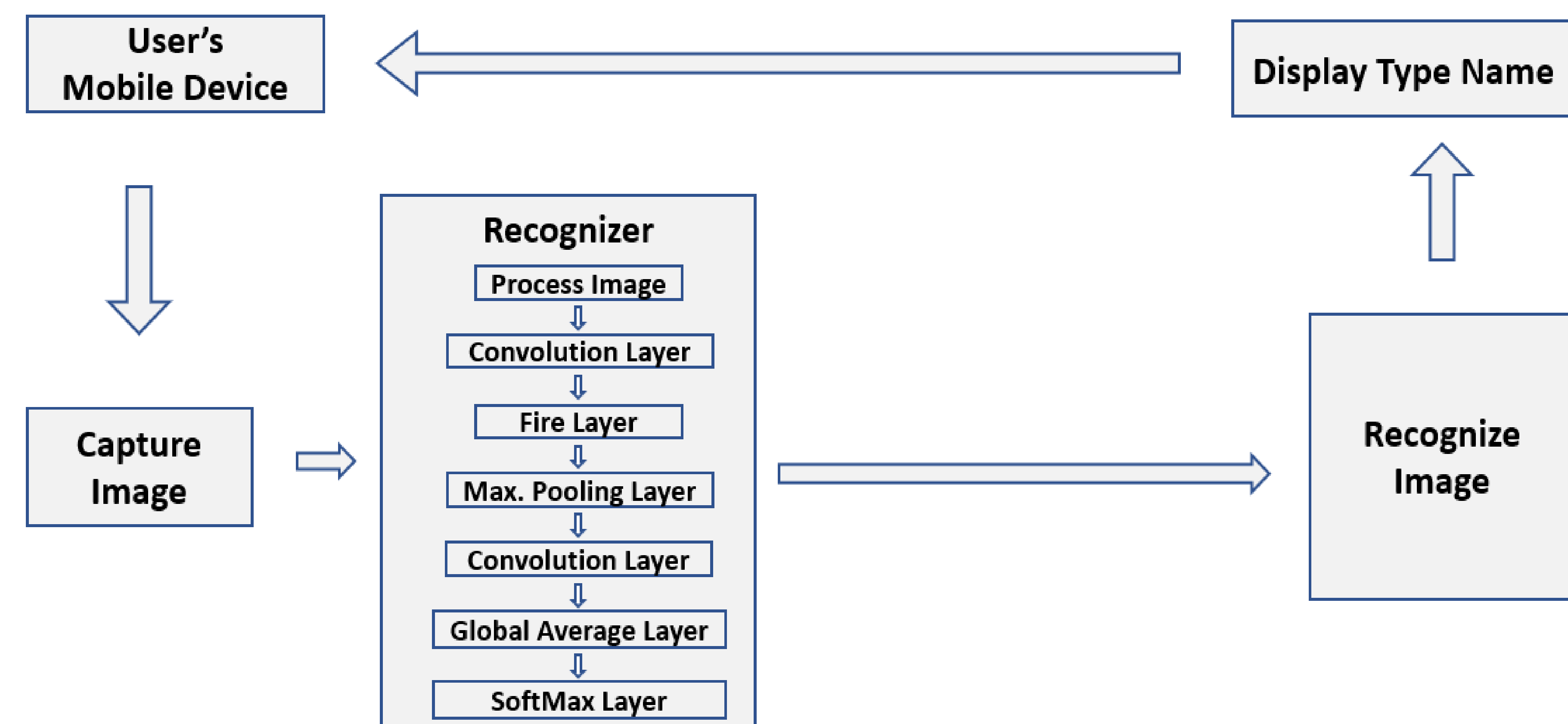


Figure 3. PyTorch Mobile Framework.

Best Framework

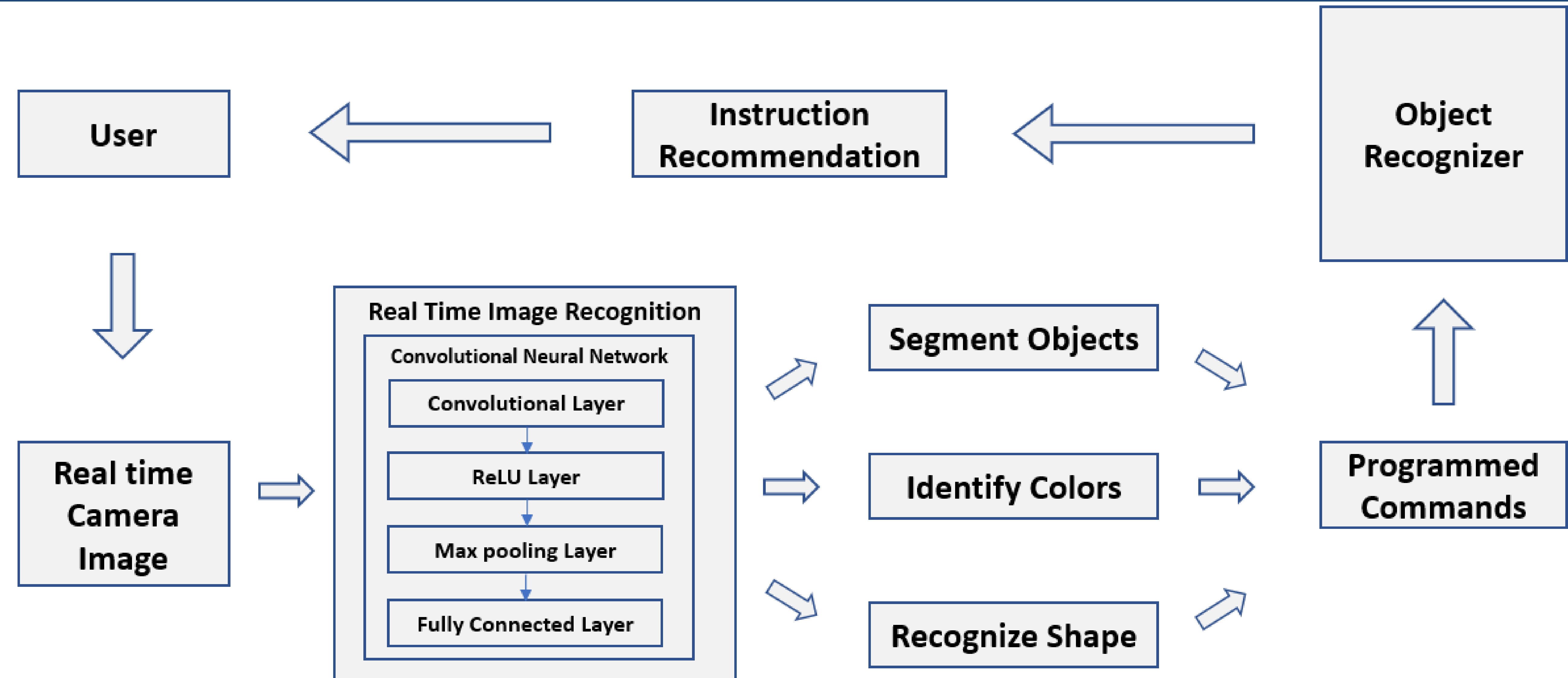


Figure 1. The proposed framework.

The framework processes the instructions given by the user and converts visual inputs and matches with well-programmed commands in the framework. These commands help the framework to implement necessary actions requested by the user.

Experimental Results

ML Kit Framework - Output.



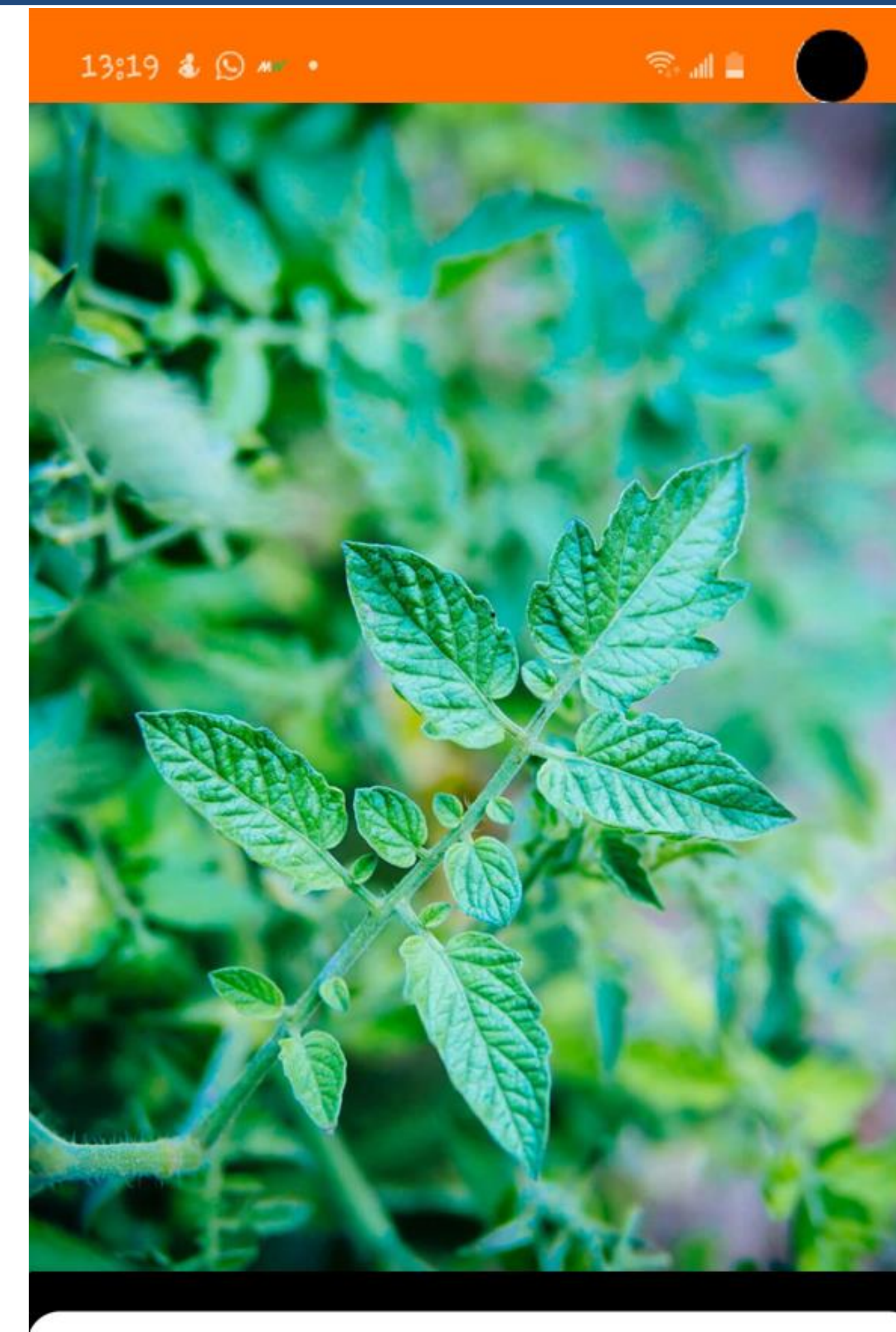
Leaf 0.84849
Salsa 0.7005
Vegetable 0.6927

PyTorch Framework - Output.



[{"name": "leaf", "confidence": 0.711055756}]

Proposed Framework - Output.



Tomato 49.45%