Live Yoga Pose Estimation

An AI model that determines yoga poses and offers real-time next pose suggestions

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Introduction

#1

Our Goal

Build an AI model for practitioners lacking access to in-person instruction & explore working with computer vision

#2

Why it Matters

Incorrect poses leading to reduced effectiveness, discomfort, or injury

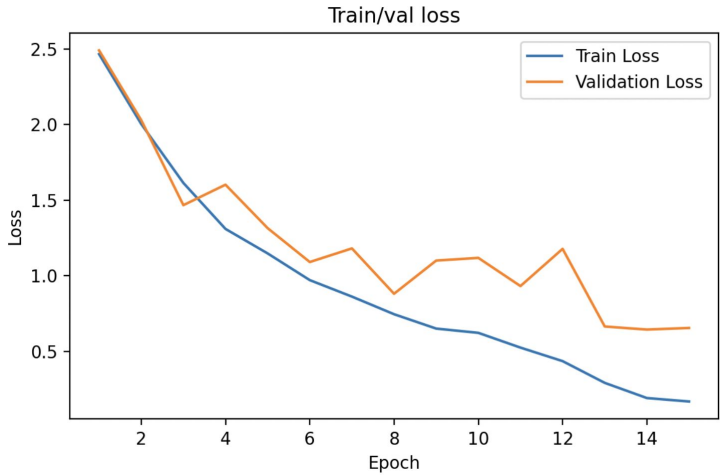
Computer vision can provide real-time feedback on pose execution

Can guide users through logical sequences for safer, more effective practice

Make quality yoga instruction more accessible to everyone

Technical Approach

- MobileNetV2 CNN backbone for efficient pose classification
- Trained on Yoga-82 dataset with 12 pose classes
    - Used data augmentation and class weighting to handle imbalanced data
- Live inference on camera footage for pose classification (~30 fps on CPU)

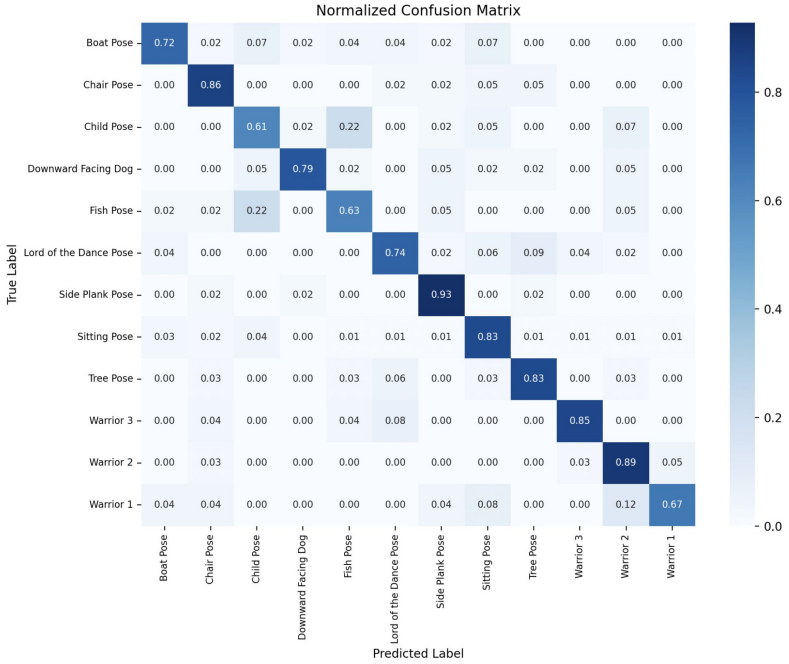


Results and Impact

Performance metrics

Model achieves 78% accuracy on test set

Successfully detects and guides through 3 different practice modes: standing-only, hard, and class



User Experience

Provides a green bar once the desired pose is met and then suggests a next pose based on the selected mode

Thank You