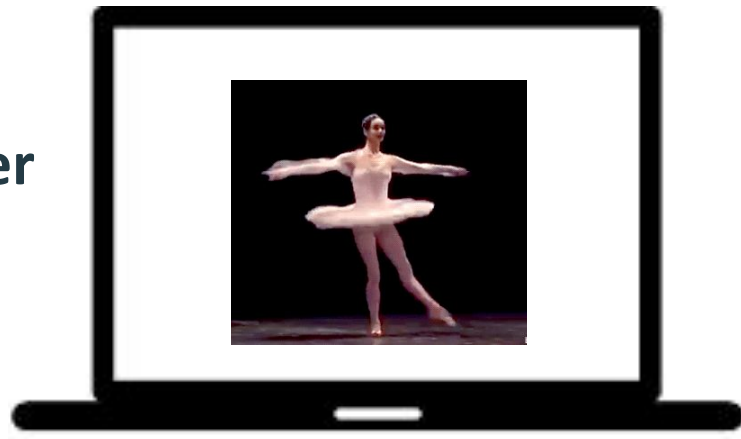# KUB

Team D4

Kristina Banh, **U**mang Bhatt, **B**rian Davis

KUB Application

A **personalized** and **portable** dance trainer

Able to view your movements and **offer corrections** on a variety of moves.
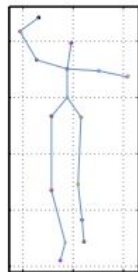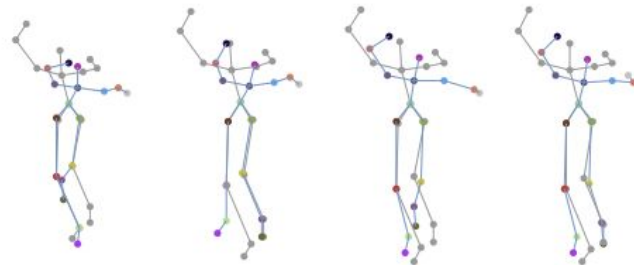
Solution Approach

Web Application

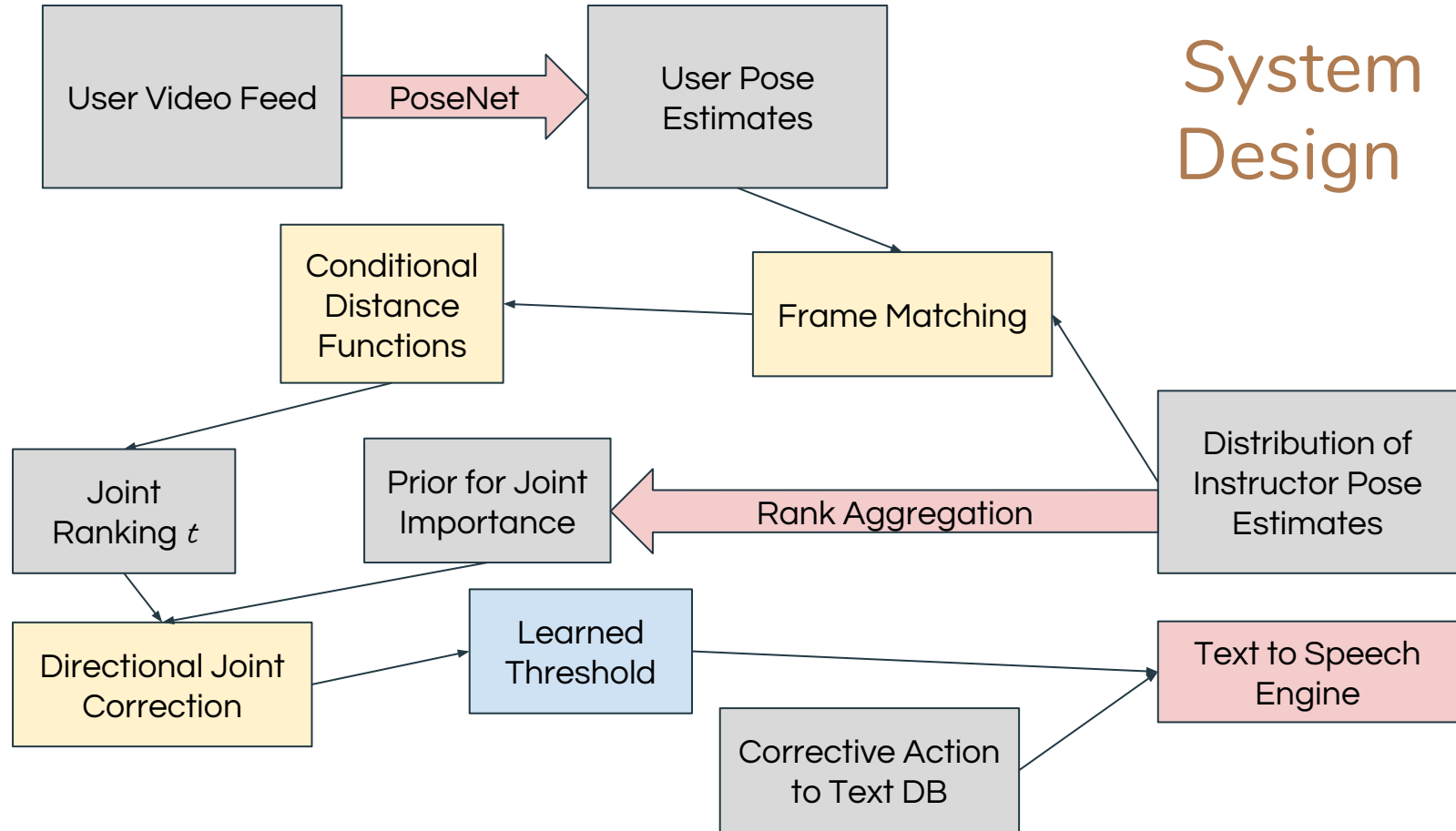**PoseNet** in TensorFlow.js

JavaScript, Node.js, HTML, CSS

Python

(a) 2D Frame   (b) 3D Pose Interpretations

System Design

App Flow

Instructor video to show pose

User Selects Pose

User performs pose

Instructor gives feedback
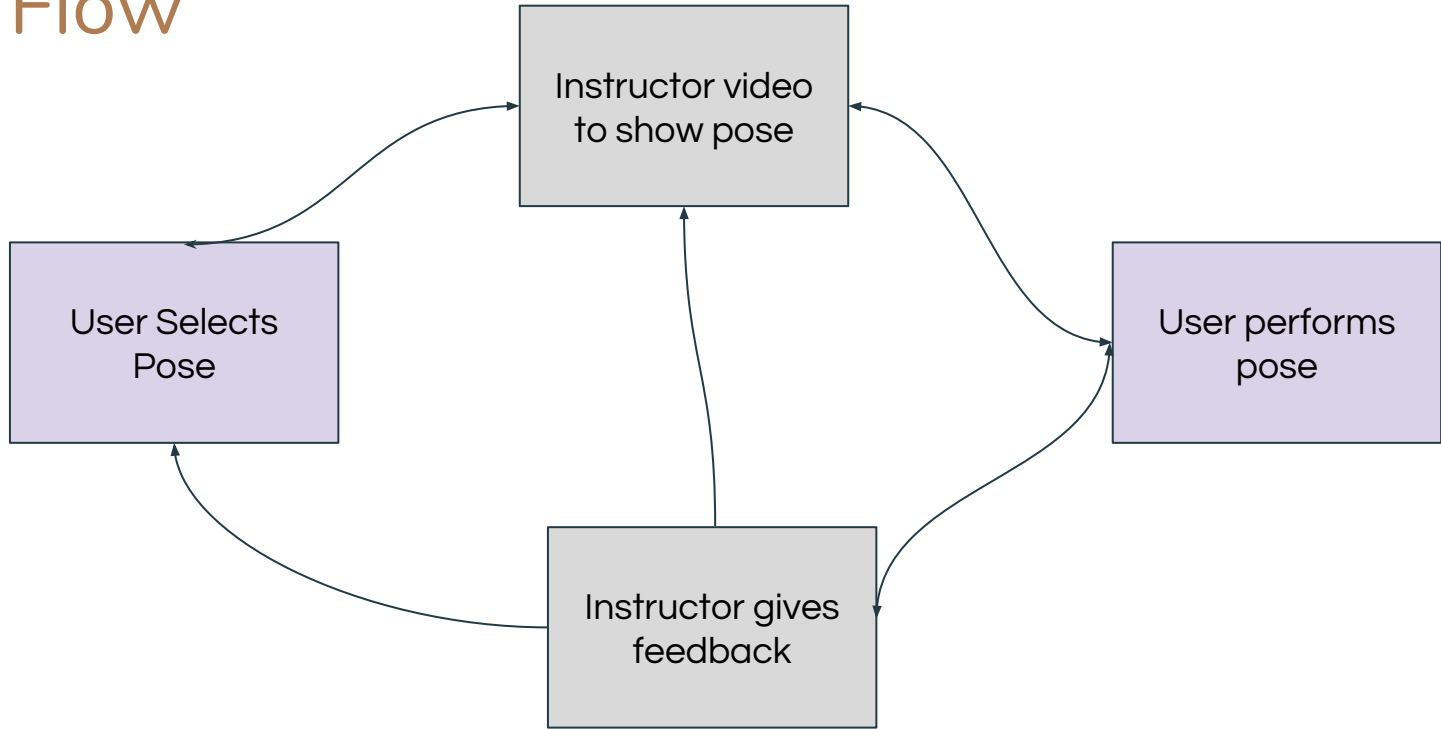
Implementation Plan

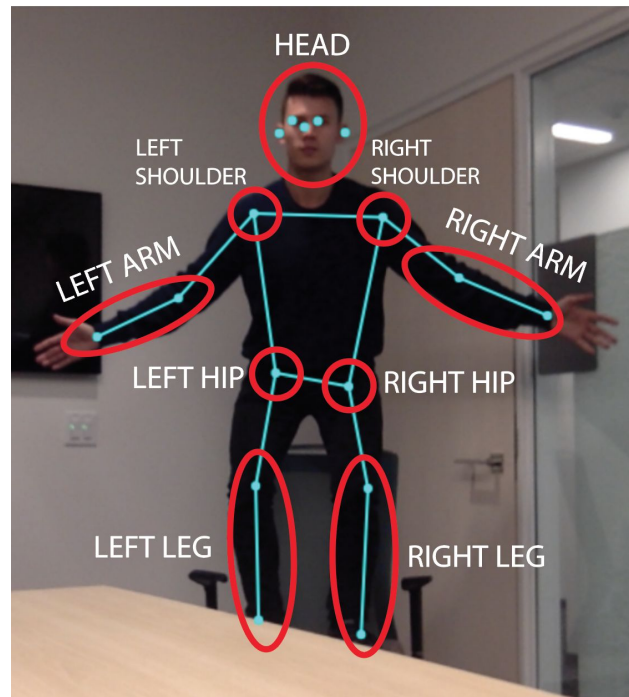**Hardware**: Macbook Pro 2018, 2.2 Ghz, i7, 16GB RAM, 256GB SSD
Logitech HD Pro Webcam C920
2 NVIDIA Titan X GPUs

Software: Google PoseNet
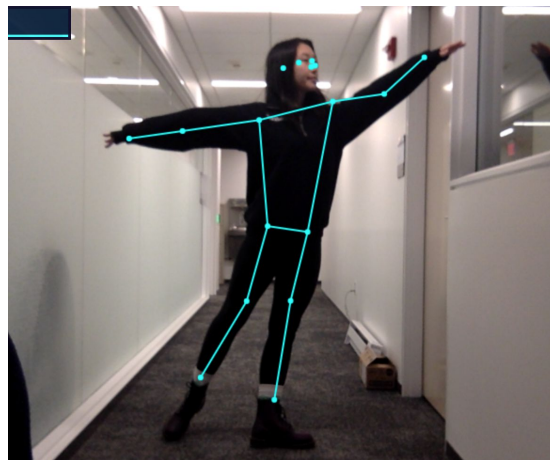Distributional rank aggregation framework
Mozilla TTS

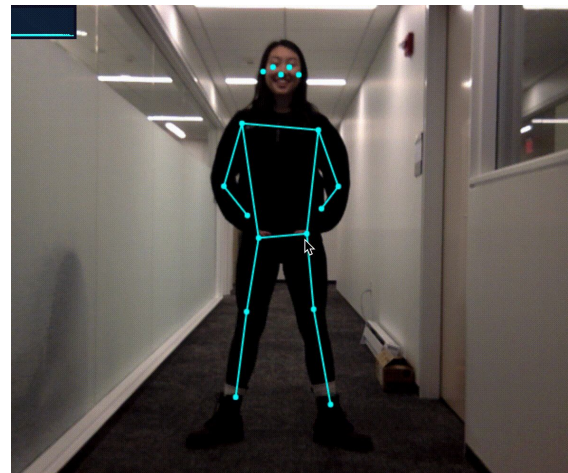# Implementation Plan

Stationary Process

- Fifth position arms
- **First arabesque tendu**
- Passé

Implementation Plan

Non-Stationary Process

- ○ Port de bras
- ○ **Demi plié in second position**
- ○ A simple, short contemporary choreography

Metrics and Validation

- Pose Detection
  - Test whether joints are placed correctly
  - Ensure that extracted poses correspond to photo stills
- UI Experience
  - Test on other dancers and have them rate usefulness
  - Success: ⅗ average in ease of use and usefulness
- Feedback Quality
  - Have dancers rate app feedback quality (accuracy, joint priority, etc)
  - Success: ⅗ average rating from dancers

Project Management