



FINAL YEAR PROJECT REPORT

SALAT POSTURES DETECTION USING AI

**In fulfillment of the requirement
For degree of
BS (COMPUTER SCIENCES)**

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DECLARATION

We hereby declare that this project report is based on our original work except for citations and quotations, which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

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SALAT POSTURES DETECTION USING AI

ABSTRACT

Salat is the second pillar of Islam. In the Muslim community, it is the most essential and fundamental worshipping activity that believers have to perform five times a day. Salat consists of several postures to perform with accuracy and needs to be performed in a defined sequence. Besides spirituality, Salat has many benefits and welfares. During learning many youngsters are hesitant to correct their postures or sometimes they are unaware of mistakes, even elderly people have several physical constraints and a very common issue of remembering the sequence, count, and correct posture of Salat poses. Our current project is an Artificial Intelligence (AI) based solution for correct posture detection which can be used for all ages. As a methodology, we have evaluated two modes or methods: The MediaPipe approach which employs a multi-step detector machine learning pipeline that has been proved to work in our Media Pipe Hands and Media Pipe Face Mesh products. The pipeline initially locates the person/pose region-of-interest (ROI) within the frame using a detector. Using the ROI-cropped frame as input, the tracker then Forecast the pose landmarks and division mask in between the ROI and another method is Convolutional Neural Network (CNN) both ways have given us 99 to 100 % accuracy and promising result with real-time evaluation.

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