Algorithm: HDTDP. Find histograms that capture normalized dynamic thermal patterns in thermal videos for a participant

Inputs:
- \( p \), a participant video data set that represents a set of all videos watched by the participant
- \( F \), a function that calculates a statistic for a two dimensional matrix

Output:
- \( H \), a set of histograms for \( p \) based on values obtained by \( F \)

Method:
for each video \( v(p) \)
    for each block location \( loc(p) \)
        for each facial block region \( b(v, loc) \)
            for each frame \( f(b) \)
                \( s_{vbf} \leftarrow F(f(b)) \)
            end for
        end for
    end for
end for
for each block location \( loc(p) \)
    for each facial block region \( b(loc) \)
        \( bin\_width(b) \leftarrow calculate\_bin\_width(b) \)
        \( bin\_locs(b) \leftarrow calculate\_bin\_locations(bin\_width(b)) \)
    end for
end for
for each video \( v(p) \)
    for each block location \( loc(p) \)
        for each facial block region \( b(v, loc) \)
            \( h \leftarrow partition\_data(b, bin\_locs(b)) \)
        end for
    end for
end for