Pupil Diameter Analysis of various Subjects

1. **Subject Name: sert40c_1**
    a. **sert40c_1_pre_2022-03-23-104712 (baseline)**
        i. **Likelihood**

        eye_top_likelihood: The mean value is 0.973, which indicates that in most cases, the top part of the eye is correctly identified. The standard deviation is 0.105, which means that there is some variability in the likelihood values across the dataset.

        eye_bottom_likelihood: The mean value is 0.961, which indicates that in most cases, the bottom part of the eye is correctly identified. The standard deviation is 0.135, which means that there is more variability in the likelihood values for the bottom part of the eye compared to the top part.

        eye_left_likelihood: The mean value is 0.986, which indicates that in most cases, the left part of the eye is correctly identified. The standard deviation is 0.094, which means that there is relatively low variability in the likelihood values for the left part of the eye.

        eye_right_likelihood: The mean value of eye_right_likelihood is 0.951, which indicates that in most cases, the right part of the eye is correctly identified. The standard deviation is 0.117, which means that there is some variability in the likelihood values for the right part of the eye.

        ii. **Eye Pupil Area**

        The eye pupil area for the baseline subject ranges from 1607 mm2 to 5000 mm2 approximately. The mean of the eye pupil area for the baseline is 3024.83 mm2.

        iii. **Eye Diameter (Avg)**

        The average eye diameter of the baseline subject ranges from 46 mm to 82 mm. The mean of the average eye diameter of the baseline subject is 61.63 mm.

    b. **sert40c_1_post1_2022-03-23-111933 (pcb1)**
        i. **Likelihood**

        eye_top_likelihood: The mean likelihood of the top part of the eye being visible is high, with a mean of 0.988 and a standard deviation of 0.061. The minimum likelihood is 0.000473 and the maximum is 0.999998. The distribution appears to be skewed to the right, with a longer tail towards higher likelihood values.

        eye_bottom_likelihood: The mean likelihood of the bottom part of the eye being visible is relatively lower, with a mean of 0.878 and a standard deviation of 0.182. The minimum likelihood is 6.220592e-07 and the maximum is 9.999865e-01. The distribution is also skewed to the right, but with a much longer tail towards lower likelihood values.

        eye_left_likelihood: The mean likelihood of the left part of the eye being visible is high, with a mean of 0.983 and a standard deviation of 0.043. The minimum likelihood is 0.000051 and the maximum is 0.999999. The distribution appears to be relatively symmetric and normally distributed, with most values clustered around the mean.

        eye_right_likelihood: The mean likelihood of the right part of the eye being visible is also high, with a mean of 0.961 and a standard deviation of 0.082. The minimum likelihood is 0.000003 and

the maximum is 0.999979. The distribution appears to be skewed to the right, with a longer tail towards higher likelihood values.

ii. Eye Pupil Area

The eye pupil area for the pcb1 subject ranges from 1343 mm2 to 4700 mm2 approximately. The mean of the eye pupil area for the pcb1 is 2425.14 mm2.

iii. Eye Diameter (Avg)

The average eye diameter of the pcb1 subject ranges from 41 mm to 79 mm. The mean of the average eye diameter of the pcb1 subject is 55.13 mm.

c. sert40c_1_post2_2022-03-23-114729 (pcb2)

i. Likelihood

eye_top_likelihood: The mean likelihood for the top eye coordinate is 0.980550, with a standard deviation of 0.093161. The range of likelihoods for this variable is from a minimum of 0.000002 to a maximum of 1, with a median likelihood of 0.999774.

eye_bottom_likelihood: The mean likelihood for the bottom eye coordinate is 0.9213843, with a standard deviation of 0.173406. The range of likelihoods for this variable is from a minimum of 2.497072e-08 to a maximum of 9.999861e-01, with a median likelihood of 0.9886536.

eye_left_likelihood: The mean likelihood for the left eye coordinate is 0.9815912, with a standard deviation of 0.093918. The range of likelihoods for this variable is from a minimum of 1.717279e-07 to a maximum of 9.999995e-01, with a median likelihood of 0.9994686.

eye_right_likelihood: The mean likelihood for the right eye coordinate is 0.9551050, with a standard deviation of 0.102842. The range of likelihoods for this variable is from a minimum of 4.155230e-07 to a maximum of 9.999950e-01, with a median likelihood of 0.9927833.

ii. Eye Pupil Area

The eye pupil area for the pcb2 subject ranges from 1146 mm2 to 4750 mm2. The mean of the eye pupil area for the pcb2 is 2084.01 mm2.

iii. Eye Diameter (Avg)

The average eye diameter of the pcb2 subject ranges from 38 mm to 79 mm. The mean of the average eye diameter of the pcb2 subject is 50.89 mm.

2. Subject Name: sert40c_5

a. sert40c_5_pre_2022-03-23-122109 (baseline)

i. Likelihood

eye_top_likelihood: This variable has a high mean value of 0.998 and a very low standard deviation of 0.019, indicating that the data points are clustered tightly around the mean value.

eye_bottom_likelihood: This variable has a lower mean value of 0.689 and a higher standard deviation of 0.375 compared to the other variables, indicating that the data points are more spread out and have a wider range of values. The minimum value is also much lower than the other variables, suggesting that some data points may have a low likelihood of being true.

eye_left_likelihood: This variable has a high mean value of 0.989 and a relatively low standard deviation of 0.038, indicating that the data points are clustered tightly around the mean value.

eye_right_likelihood: This variable has a high mean value of 0.886 and a moderate standard deviation of 0.201, indicating that the data points are somewhat spread out but still clustered around the mean value.

ii. Eye Pupil Area

The average eye pupil area ranges from 1173 mm2 to 4497 mm2. The mean of the eye pupil area for the baseline is 2250.97 mm2.

iii. Eye Diameter (Avg)

The average eye diameter ranges from 39 mm to 73 mm. The mean of the average eye diameter of the baseline subject is 53.14 mm.

b. sert40c_5_post1_2022-03-23-124848_830 (pcb1)

i. Likelihood

eye_top_likelihood: This variable has a high mean value of 0.998 and a very low standard deviation of 0.008, indicating that the data points are clustered tightly around the mean value.

eye_bottom_likelihood: This variable has a lower mean value of 0.753 and a higher standard deviation of 0.342 compared to the other variables, indicating that the data points are more spread out and have a wider range of values. The minimum value is also much lower than the other variables, suggesting that some data points may have a low likelihood of being true.

eye_left_likelihood: This variable has a high mean value of 0.975 and a moderate standard deviation of 0.092, indicating that the data points are somewhat spread out but still clustered around the mean value. The minimum value is relatively low, but the maximum value is close to 1, suggesting that this variable has a high likelihood of being true for most data points.

eye_right_likelihood: This variable has a mean value of 0.820 and a relatively high standard deviation of 0.252, indicating that the data points are more spread out compared to the other variables. The minimum and maximum values are also relatively high, suggesting that this variable has a high likelihood of being true for most data points.

ii. Eye Pupil Area

The average pupil area ranges from 1080 mm2 to 3900 mm2 approximately. The mean of the eye pupil area for the pcb1 is 2352.97 mm2.

iii. Eye Diameter (Avg)

The average eye diameter ranges from 37 mm to 69 mm. The mean of the average eye diameter of the pcb1 subject is 54.51 mm.

c. Sert40c_5_post2_ca3_2022-03-23-131423_828 (pcb2)

i. Likelihood

eye_top_likelihood: The mean likelihood of the top part of the eye being visible is 0.994, with a standard deviation of 0.049. The minimum likelihood is 2.02e-07, while the maximum is 9.999981e-01.

eye_bottom_likelihood: The mean likelihood of the bottom part of the eye being visible is 0.789, with a standard deviation of 0.291.

eye_left_likelihood: The mean likelihood of the left part of the eye being visible is 0.989, with a standard deviation of 0.063.

eye_right_likelihood: The mean likelihood of the right part of the eye being visible is 0.775, with a standard deviation of 0.279. The minimum likelihood is 1.335954e-08, while the maximum is 9.999496e-01.

ii. Eye Pupil Area

The average pupil area ranges from 1164 mm2 to 4016 mm2. Moreover there exists an extreme data point having pupil area approximately 37,527 mm2. The mean of the eye pupil area for the pcb2 is 2344.89 mm2.

iii. Eye Diameter (Avg)

The average pupil diameter ranges from 38 mm to 71 mm. The mean of the average eye diameter of the pcb2 subject is 54.28 mm.

d. Sert40c_5_post3_2022-03-23-133041_825 (pcb3)

i. Likelihood

eye_top_likelihood: The mean value of this variable is 0.997 which indicates that on average, the top of the eye is detected with a high probability. The standard deviation of 0.013 suggests that there is not much variation in the likelihood of detection of the top of the eye.

eye_bottom_likelihood: The mean value of this variable is 0.656501 which is lower than the mean value of eye_top_likelihood, indicating that the detection of the bottom of the eye is less probable compared to the top. The standard deviation of 0.375 suggests that the likelihood of detection of the bottom of the eye has higher variability compared to the top. The minimum value of 0.000215 and the maximum value of 0.999992 suggest that there is a wide range of values for the likelihood of detection of the bottom of the eye.

eye_left_likelihood: The mean value of this variable is 0.966981 indicating that the left side of the eye is detected with a high probability. The standard deviation of 0.128 suggests that there is a high degree of variation in the likelihood of detection of the left side of the eye. The minimum value of 0.008971 and the maximum value of 1.0 indicate that the likelihood of detection of the left side of the eye ranges from low to high.

eye_right_likelihood: The mean value of this variable is 0.780334, indicating that the detection of the right side of the eye is less probable compared to the left. The standard deviation of 0.266 suggests that there is a high degree of variability in the likelihood of detection of the right side of

the eye. The minimum value of 0.007743 and the maximum value of 0.999922 suggest that there is a wide range of values for the likelihood of detection of the right side of the eye

ii. Eye Pupil Area

The average pupil area of this subject ranges from 985 mm2 to 3870 mm2. The mean of the eye pupil area for the pcb3 is 2363.84 mm2.

iii. Eye Diameter (Avg)

The average pupil diameter of the subject ranges from 35 mm to 71 mm. The mean of the average eye diameter of the pcb3 subject is 54.45 mm.

3. **Subject Name: sert40b_2**
   a. **sert40b_2_pre_2022-03-23-150530 (baseline)**
      i. **Likelihood**

eye_top_likelihood: The mean value of this variable is 0.967 which indicates that on average, the top of the eye is detected with a high probability. The standard deviation of 0.088 suggests that there is not much variation in the likelihood of detection of the top of the eye.

eye_bottom_likelihood: The mean value of this variable is 0.85 which is lower than the mean value of eye_top_likelihood, indicating that the detection of the bottom of the eye is less probable compared to the top. The standard deviation of 0.236 suggests that the likelihood of detection of the bottom of the eye has higher variability compared to the top.

eye_left_likelihood: The mean value of this variable is 0.9929 indicating that the left side of the eye is detected with a high probability. The standard deviation of 0.061 suggests that there is a very less degree of variation in the likelihood of detection of the left side of the eye.

eye_right_likelihood: The mean value of this variable is 0.969, indicating that the detection of the right side of the eye is almost as probable as the left eye. The standard deviation of 0.081 suggests that there is a less degree of variability in the likelihood of detection of the right side.

ii. Eye Pupil Area

The eye pupil area of the baseline subject ranges from 1434 mm2 to 4218 mm2. The mean of the eye pupil area for the baseline is 2690.37 mm2.

iii. Eye Diameter (Avg)

The average eye diameter of the baseline subject ranges from 42 mm to 74 mm. The mean of the average eye diameter of the baseline subject is 58.02 mm.

   b. **sert40b_2_post1_2022-03-23-153252 (pcb1)**
      i. **Likelihood**

eye_top_likelihood: The mean value of this variable is 0.966 which indicates that on average, the top of the eye is detected with a high probability. The standard deviation of 0.076 suggests that there is not much variation in the likelihood of detection of the top of the eye.

eye_bottom_likelihood: The mean value of this variable is 0.3523 which is lower than the mean value of eye_top_likelihood, indicating that the detection of the bottom of the eye is very less probable compared to the top. The standard deviation of 0.382 suggests that the likelihood of

detection of the bottom of the eye has higher variability compared to the top.

eye_left_likelihood: The mean value of this variable is 0.9911 indicating that the left side of the eye is detected with a high probability. The standard deviation of 0.0437 suggests that there is a less degree of variation in the likelihood of detection of the left side of the eye.

eye_right_likelihood: The mean value of this variable is 0.88, indicating that the detection of the right side of the eye is less probable compared to the left. The standard deviation of 0.151 suggests that there is a high degree of variability in the likelihood of detection of the right eye.

ii. Eye Pupil Area

The eye pupil area of the pcb1 subject ranges from 1556 mm2 to 3966 mm2. The mean of the eye pupil area for the pcb1 is 2330.80 mm2.

iii. Eye Diameter (Avg)

The average eye diameter of the pcb1 subject ranges from 44 mm to 72 mm. The mean of the average eye diameter of the pcb1 subject is 54.21 mm.

c. sert40b_2_post2_ca3_2022-03-23-155746 (pcb2)

i. Likelihood

eye_top_likelihood: The mean value of this variable is 0.99 which indicates that on average, the top of the eye is detected with a high probability. The standard deviation of 0.033 suggests that there is not much variation in the likelihood of detection of the top of the eye.

eye_bottom_likelihood: The mean value of this variable is 0.52 which is lower than the mean value of eye_top_likelihood, indicating that the detection of the bottom of the eye is less probable compared to the top. The standard deviation of 0.39 suggests that the likelihood of detection of the bottom of the eye has higher variability compared to the top.

eye_left_likelihood: The mean value of this variable is 0.996 indicating that the left side of the eye is detected with a high probability. The standard deviation of 0.026 suggests that there is a less degree of variation in the likelihood of detection of the left side of the eye.

eye_right_likelihood: The mean value of this variable is 0.958, indicating that the detection of the right side of the eye is as probable as the left. The standard deviation of 0.083 suggests that there is a low degree of variability in the likelihood of detection of the right eye.

ii. Eye Pupil Area

The pupil area of the pcb2 subject ranges from 1377 mm2 to 4000 mm2. The mean of the eye pupil area for the pcb2 is 2443.80 mm2.

iii. Eye Diameter (Avg)

The average eye diameter of the pcb2 subject ranges from 42 mm to 75 mm. The mean of the average eye diameter of the pcb2 subject is 55.36 mm.

d. sert40b_2_post3_2022-03-23-161259 (pcb3)

i. Likelihood

eye_top_likelihood: The mean value of this variable is 0.9623 which indicates that on average, the top of the eye is detected with a high probability. The standard deviation of 0.0923 suggests

that there is not much variation in the likelihood of detection of the top of the eye.

eye_bottom_likelihood: The mean value of this variable is 0.513 which is lower than the mean value of eye_top_likelihood, indicating that the detection of the bottom of the eye is less probable compared to the top. The standard deviation of 0.4078 suggests that the likelihood of detection of the bottom of the eye has higher variability compared to the top.

eye_left_likelihood: The mean value of this variable is 0.9807 indicating that the left side of the eye is detected with a high probability. The standard deviation of 0.0832 suggests that there is a low degree of variation in the likelihood of detection of the left side of the eye.

eye_right_likelihood: The mean value of this variable is 0.8783, indicating that the detection of the right side of the eye is less probable compared to the left. The standard deviation of 0.177 suggests that there is a high degree of variability in the likelihood of detection of the right eye.

ii. **Eye Pupil Area**

The eye pupil area of the pcb3 subject ranges from 1613 mm2 to 4600 mm2. The mean of the eye pupil area for the pcb3 is 2644.32 mm2.

iii. **Eye Diameter (Avg)**

The average eye diameter of the pcb3 subject ranges from 45 mm to 78 mm. The mean of the average eye diameter of the pcb3 subject is 57.69 mm.