Features

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| Name | Units | Definition | My thoughts+functions, gleichungen |
| Average speed | Strecke/frame | The average value of frames | import numpy as np  # Example inputs  # Replace these with your actual data  x\_coords = np.array([/\* list of x-coordinates across frames \*/])  y\_coords = np.array([/\* list of y-coordinates across frames \*/])  time\_per\_frame = 1 / 30 # assuming 30 frames per second  # Calculate distances between consecutive frames  distances = np.sqrt((np.diff(x\_coords) \*\* 2) + (np.diff(y\_coords) \*\* 2))  # Total distance traveled  total\_distance = np.sum(distances)  # Total time (in seconds)  total\_time = len(x\_coords) \* time\_per\_frame  # Average speed (distance per time)  average\_speed = total\_distance / total\_time |
| Maximum speed | Strecke/frame 75% |  | import numpy as np  import matplotlib.pyplot as plt  # Example inputs (replace these with your actual data)  x\_coords = np.array([/\* list of x-coordinates across frames \*/])  y\_coords = np.array([/\* list of y-coordinates across frames \*/])  time\_per\_frame = 1 / 30 # assuming 30 frames per second  # Calculate distances between consecutive frames  distances = np.sqrt((np.diff(x\_coords) \*\* 2) + (np.diff(y\_coords) \*\* 2))  # Calculate speed for each frame transition  speeds = distances / time\_per\_frame  # Plotting the histogram of speeds  plt.figure(figsize=(10, 6))  plt.hist(speeds, bins=30, color='blue', edgecolor='black', alpha=0.7)  plt.title("Histogram of Mouse Speeds")  plt.xlabel("Speed (units per second)")  plt.ylabel("Frequency")  plt.grid(axis='y', linestyle='--', alpha=0.7)  plt.show() |
| Average location 1) | x/y location |  | import numpy as np  # Example inputs (replace these with your actual data)  x\_coords = np.array([/\* list of x-coordinates across frames \*/])  y\_coords = np.array([/\* list of y-coordinates across frames \*/])  # Calculate the average location  mean\_x = np.mean(x\_coords)  mean\_y = np.mean(y\_coords)  average\_location = (mean\_x, mean\_y)  print("Average location of the mouse:", average\_location) |
| Average location 2) | X/y location |  | import numpy as np  # Example inputs (replace these with your actual data)  x\_coords = np.array([/\* list of x-coordinates across frames \*/])  y\_coords = np.array([/\* list of y-coordinates across frames \*/])  # Calculate the average location  mean\_x = np.mean(x\_coords)  mean\_y = np.mean(y\_coords)  average\_location = (mean\_x, mean\_y)  print("Average location of the mouse:", average\_location) |
| Average orientation | Angle |  |  |
| Mode of body length | Länge einer Euclidean distance |  |  |
| Most often Radiance | Degree |  |  |
| distance | Länge |  |  |