

## Prediction process

- 

## Dataset for model progressive or non progressive

### Column:

- Velocity: Average speed of the sperm (pixels/second).
- Straightness Ratio: Ratio of straight-line displacement to total path length.
- Angular Displacement: Change in direction over time (useful for detecting circular motion).
- Linearity: Measures how straight the trajectory is (e.g., using linear regression).
- Curvature: Measures how curved the trajectory is.
- Amplitude of Lateral Head Displacement (ALH): Side-to-side movement of the sperm head.
- Beat Cross Frequency (BCF): Frequency of the sperm head crossing its average path.
- Total Distance Traveled: Total path length of the sperm.
- Displacement: Straight-line distance from the start to the end point.
- Time Elapsed: Total time of the trajectory.