# Strike Prediction - Attribute List

**pitch_type**
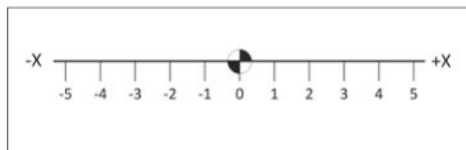- The type of pitch derived from Statcast.

**release_speed**
- Pitch velocities from 2008-16 are via Pitch F/X, and adjusted to roughly out-of-hand release point. All velocities from 2017 and beyond are Statcast, which are reported out-of-hand.

**p_throws**
- Hand pitcher throws with.

**release_pos_x**
- Horizontal Release Position of the ball measured in feet from the catcher's perspective.



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**release_pos_y**
- Release position of pitch measured in feet from the catcher's perspective

**release_pos_z**
- Vertical Release Position of the ball measured in feet from the catcher's perspective.

**description**
- Description of the resulting pitch.
- Ball, blocked_ball, called strike

**pfx_z**
- Vertical movement in feet from the catcher's perspective.

**pfx_x**
- Horizontal movement in feet from the catcher's perspective.

**release_spin**
- Spin rate of pitch tracked by Statcast.

**vx0**
- The velocity of the pitch, in feet per second, in x-dimension, determined at y=50 feet.

**vy0**
- The velocity of the pitch, in feet per second, in y-dimension, determined at y=50 feet.

**vz0**
- The velocity of the pitch, in feet per second, in z-dimension, determined at y=50 feet.

**spin_dir**
- * Deprecated field from the old tracking system.

**ax**
- The acceleration of the pitch, in feet per second per second, in x-dimension, determined at y=50 feet.

**ay**
- The acceleration of the pitch, in feet per second per second, in y-dimension, determined at y=50 feet.

**az**
- The acceleration of the pitch, in feet per second per second, in z-dimension, determined at y=50 feet.

# Selected Attribute Groups

## Group 1: vx0, vy0, vz0

- The velocity of the pitch, in feet per second, in x-dimension, determined at y=50 feet.
- The velocity of the pitch, in feet per second, in y-dimension, determined at y=50 feet.
- The velocity of the pitch, in feet per second, in z-dimension, determined at y=50 feet.

## Group 2: ax, ay, az

- The acceleration of the pitch, in feet per second per second, in x-dimension, determined at y=50 feet.
- The acceleration of the pitch, in feet per second per second, in y-dimension, determined at y=50 feet.
- The acceleration of the pitch, in feet per second per second, in z-dimension, determined at y=50 feet.

## Group 3: pfx_x, pfx_z, vx0, vy0, vz0

- Horizontal movement in feet from the catcher's perspective.
- Vertical movement in feet from the catcher's perspective.
- The velocity of the pitch, in feet per second, in x-dimension, determined at y=50 feet.
- The velocity of the pitch, in feet per second, in y-dimension, determined at y=50 feet.
- The velocity of the pitch, in feet per second, in z-dimension, determined at y=50 feet.

## Group 4: release_pos_x , release_pos_y, release_pos_z, pfx_x, pfx_z

- Horizontal Release Position of the ball measured in feet from the catcher's perspective.
- Release position of pitch measured in feet from the catcher's perspective
- Vertical Release Position of the ball measured in feet from the catcher's perspective.
- Horizontal movement in feet from the catcher's perspective.
- Vertical movement in feet from the catcher's perspective.