

# Discussion on 2024 Bat Tracking Data

## Overview

We have provided anonymized bat tracking data from multiple Phillies Minor League affiliate games. When you access the GCS bucket, you will notice over a thousand files, represented as jsonl. Each file relates to a single at-bat within the game. More specifically, each file represents a pitch and the result of the pitch.

## Details

At a high level a file provides the following (fields can be empty):

- Units - this denotes how the measurement data throughout the file
  - Length
  - Velocity
  - Acceleration
  - Angle
- Summary Acts - this denotes fields representing what occurred in the at bat.
  - Pitch
    - EventId - unique ID for the pitch
    - Type - type of pitch thrown
    - Result - what was the action of said pitch
    - Speed - how fast was the pitch thrown
    - Spin - was was the spin on the ball
  - Hit (If the at bat does not have a hit, this will be empty)
    - EventId - unique ID for the hit. (This eventId relates the eventId from the events field)
    - Speed - how fast the ball moves after contact
    - Spin - the spin of the ball after contact
    - Stroke - swing type (ex: bunt)
  - Summary Score - basic game state information
- Events - this denotes batted ball description. (If the at bat does not have a hit, this will be empty).
  - Angle
    - Position 0 - spray angle
    - Position 1 - launch angle
  - TeamId - ID of the batter's team
  - PersonId - ID of the batter

- EventId - unique ID of the hit. (This eventId relates the eventId from the summary acts hit field)
- Samples
  - Ball - ball flight
  - Bat - bat flight
    - If there is data in `samples.bat`, then that means there was a swing. Which could be a ball in play, but also fouls and wiffs. With that said, there are obviously exceptions due to the nature of tracking devices. But, it is fair to assume if `sample.bat[0].event != "No"` then, there was a swing in this event / file.

## How to access data?

From command line:

1. **gcloud auth login**
  - a. This will redirect you to google UI, log in with the gmail account you signed up for the Hackathon with
2. **gcloud config set project wisd-hackathon**
  - a. You may get this error, it is OK and how we set your accounts. Just enter "Y"

*WARNING: You do not appear to have access to project [wisd-hackathon] or it does not exist.*

*Are you sure you wish to set property [core/project] to wisd-hackathon?*

*Do you want to continue (Y/n)?*

3. From here, you will want to download the files from GCS locally for development. In the UI for the bucket, click Download and copy the command GCS provides. Run that command in your directory.
  - a. EX:

```
gsutil -m cp \
  "gs://2024-hackathon/anonymized-files-wisd/12345633_11585.jsonl"
\
  "gs://2024-hackathon/anonymized-files-wisd/12345633_12543.jsonl"
\
  "gs://2024-hackathon/anonymized-files-wisd/12345633_12850.jsonl"
\
  .
```