Time: Mar. 31, 2025, the 3rd meeting

Venue: Susan Wakil Health Building, Level 7, Meeting Room 723; Zoom link: https://uni-sydney.zoom.us/j/86710874115

Meeting Minute Taker: Mohan Xi

Attendances: Mohan Xi, Feixiang Wang, Yang Guo, Weijia Chi, Ruhao Ji, Tonghuan Liu, Haonan Shen

Apologies: None

Main Contents

* The client clarified that FPA and HKA do not need to be predicted, but can be calculated directly from the dataset using mathematical formulas.
* The client emphasized that the current main task is to predict KAM using 3D trajectory data, and evaluate the model using MSE.
* We discussed the need to extract two peak values from the KAM curve, one from the first half of the data, and one from the second half.
* The client encouraged future exploration of using 2D video data to estimate FPA and HKA, if the current task goes smoothly.
* The full dataset was provided to the team.
* It was agreed that bi-weekly meetings will be held to track progress and resolve issues.

Key Takeaways

* Use direct calculation methods (based on formulas) to get FPA and HKA from 3D marker data.
* KAM prediction using deep learning (e.g., LSTM/Transformer) is now the main focus.
* We need to implement post-processing to extract two KAM peak values for each prediction.
* 2D video-based predictions are considered a future research direction.

What’s Next

* The team will develop the FPA and HKA calculation scripts by next week.
* Feixiang Wang and Tonghuan Liu will continue training and tuning KAM models, focusing on reducing MSE.
* Mohan Xi and Weijia Chi are focusing on correlation analysis between independent and dependent variables, and helping with feature selection.
* Yang Guo and Ruhao Ji are also working on analyzing feature relationships and contributing to selecting the most informative inputs for our model.