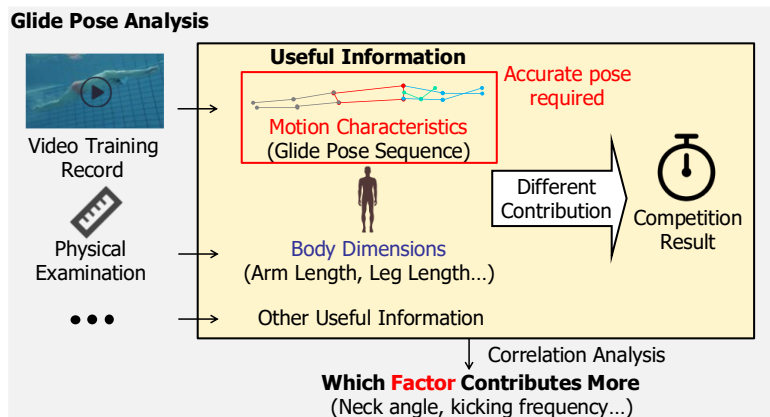


World-local Motion Feature and Structural Refinement for Swimming Glide Pose Analysis

鄒 澤之 池永研究室 修士課程修了

Background

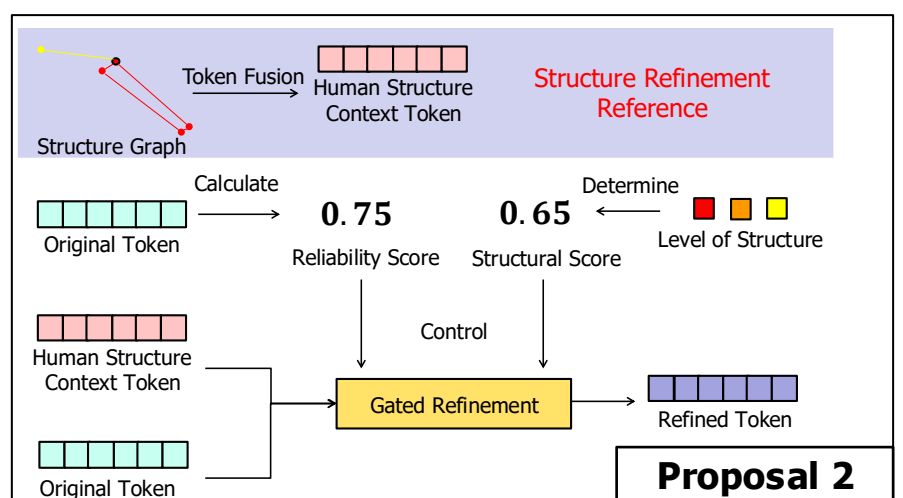
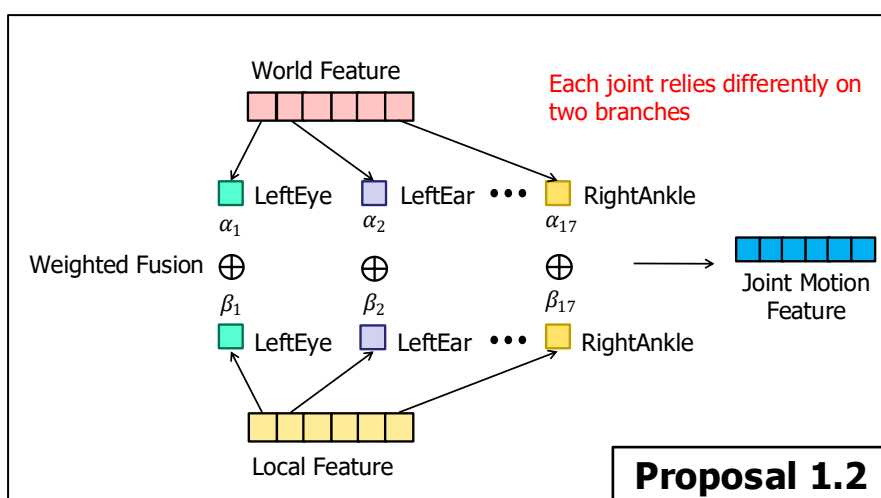
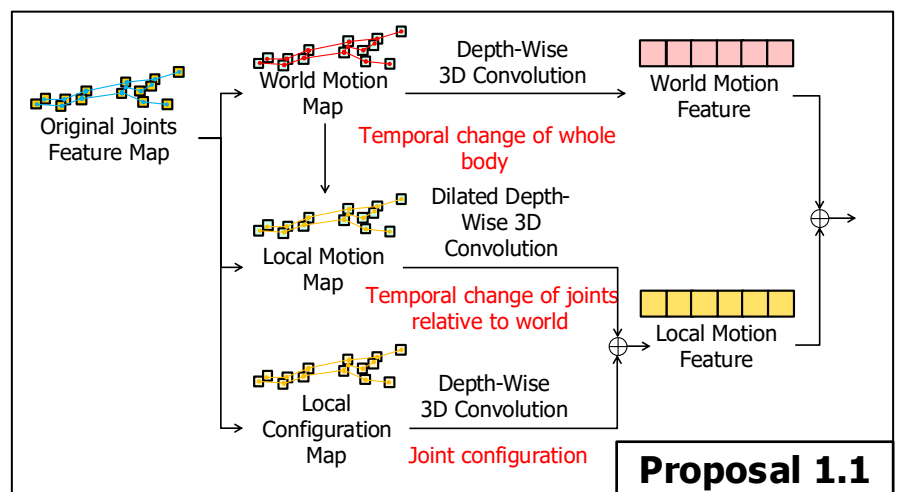
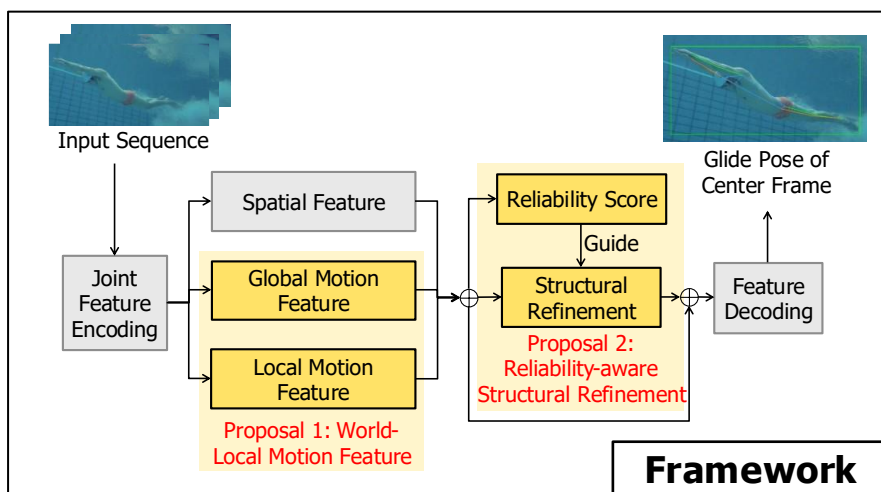


Challenges

- Underwater Disturbance
 - Bubble occlusion
 - Surface reflection
- Athlete Motion
 - Unique pose
 - Self Occlusion
- Camera shake and Motion

Target Achieve the accuracy of AP 95% for glide pose estimation.

Proposals



Experiment Results

Method	AP $\uparrow$
Baseline	57.6%
Baseline + Fine-tune	94.4%
Baseline + P1	95.6%
Baseline + P2	95.0%
Baseline + P1 + P2	95.7%

Conclusion

- The proposed methods improved the accuracy to 95.7% from 57.6%, demonstrating their effectiveness and robustness in complex and unique underwater swimming glide phase scenario.

