What are the limitations of rule-based gesture generation?

Traditionally, gesture generation for virtual agents has been done by various rule-based systems which are constrained by the discrete set of gestures they can produce. On the other hand, the recent work focuses more on regression-based task to produce continuous gesture generation.

What is the role of autoregression in the proposed model?

The model is also autoregressive meaning we feed preceding model predictions back to the model to ensure motion continuity without vanishing-gradient issues and with few parameters to learn.

How did the authors evaluate their proposed method? Why?

The proposed method was evaluated via root mean-square error (RMSE), acceleration and jerk (rate of change of acceleration), and acceleration histograms of the produced motion. To investigate human perception of the gestures, several user studies were conducted that all followed the same protocol and procedure. To evaluate the importance of various model components individually ablation was utilized by training and testing of seven different system variants including the full model.