

# Machine Perception : summary of articles

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## 1 RNNs for human dynamics

## 2 On human motion prediction using RNNs

- discontinuity problem
- feeding ground-truths vs predictions during training
- residual architecture that models first-order motion derivatives
- "deep networks are known to be hard to train when data is scarce (which is the data regime for action-specific motion models)."
- **seq2seq architectures.** " Moreover, there are multiple variations of seq2seq architectures (e.g., with attention mechanisms [4], or bi-directional encoders [35]), that could potentially improve motion prediction."
- "Striving for simplicity, during training we let the decoder produce a sequence by always taking as input its own samples".
- "...in our case residual connections help us model prior knowledge about the statistics of human motion."
- **Baselines:** "We also consider an agnostic zero-velocity baseline which constantly predicts the last observed frame. For completeness, we also consider running averages of the last two and four observed frames"

### 2.1 Questions:

- Is zero-velocity baseline (predicting the last observed frame) even possible in our setting?