

Music Generation with Deep Learning Techniques

Generating irregular and mixed meters with improved musicality and coherence

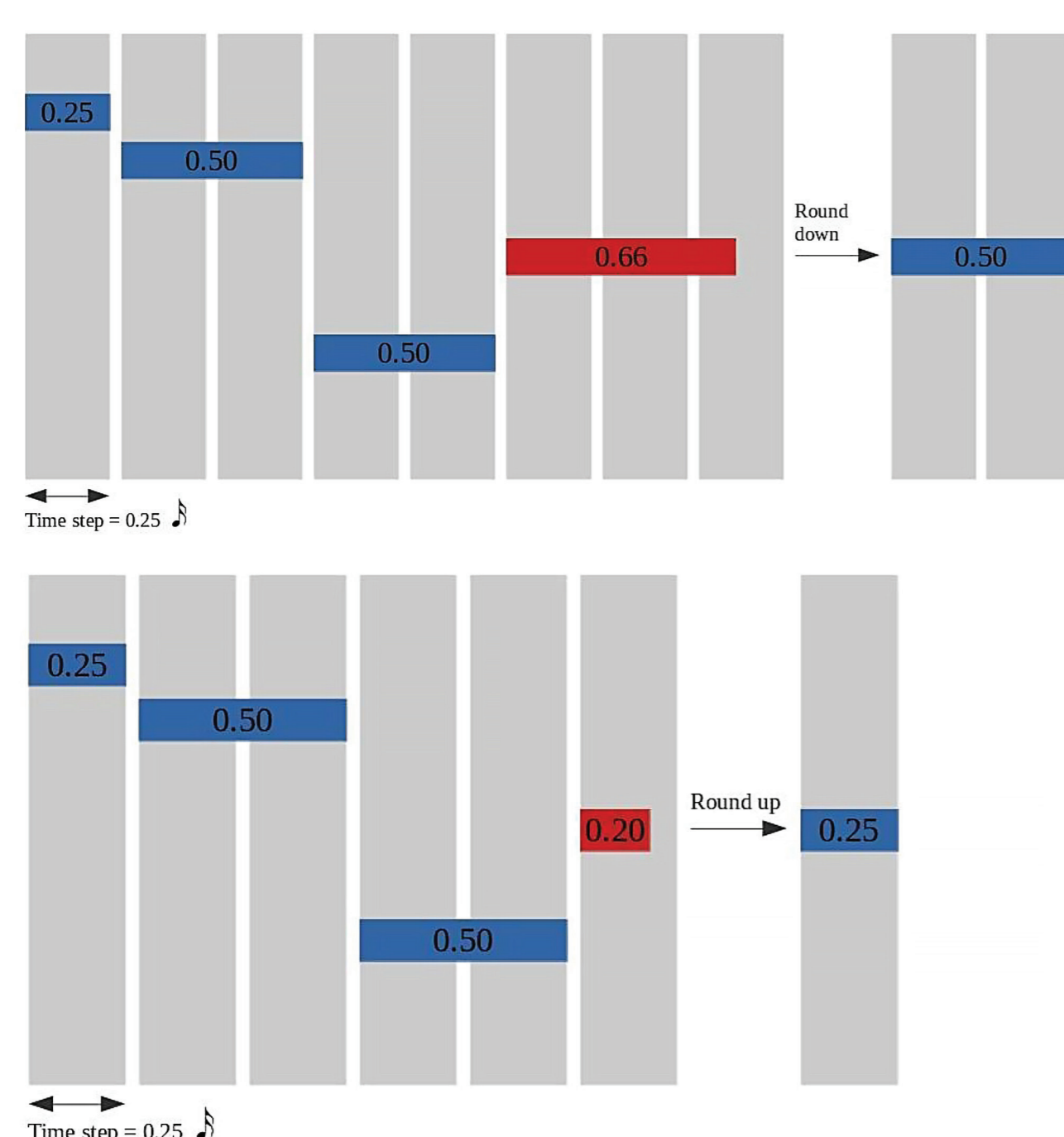
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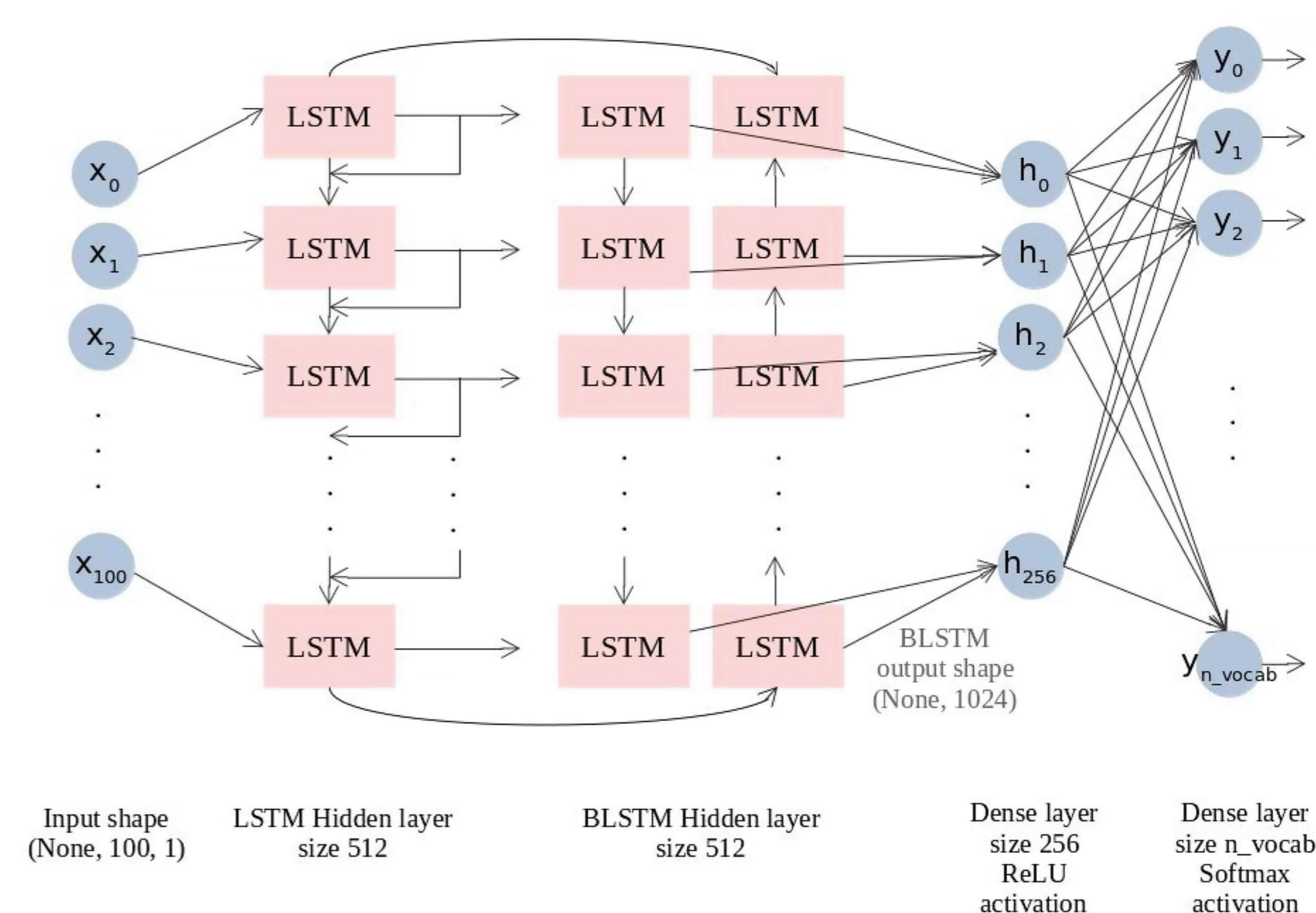
Recent interest and development in artificial intelligence spurred researchers to explore the role machine learning could play in creative sectors such as music. Current music generation systems lack content variability as they are only able to generate music with a fixed length or meter. Hence, this project **proposes a new temporal scope representation** to generate irregular meters. It also hypothesises that a Bidirectional **Long Short-Term Memory (LSTM)** network can generate music with better coherence and musicality.

Deep Learning Model Design

New temporal scope representation



Bidirectional LSTM network



Model Development and Training

28 pieces of ragtime music were encoded into data using the proposed temporal scope representation. This data was then used to train the Bidirectional LSTM deep learning model. After 450 epochs, the model's loss value converged at 0.53 and generates music samples using the iterative feedforward approach.

Results

- ✓ Generate irregular and mixed meters
- ✓ Better learn musical sequences and generate music with improved musicality and coherence

Listen to excerpts from
the model by scanning
this QR code!

