

Abstract geometric shapes in the top corners of the slide, including triangles and polygons in shades of orange, blue, and teal.

# Deep Dive Module 5

# Deep Dive

## RNNs

- ❑ Evolution of Neural Networks to Large Language Models in Detail  
<https://www.labellerr.com/blog/evolution-of-neural-networks-to-large-language-models/>

## RNN variants

- ❑ Exploring the LSTM Neural Network Model for Time Series  
<https://towardsdatascience.com/exploring-the-lstm-neural-network-model-for-time-series-8b7685aa8cf>
- ❑ Bidirectional Recurrent Neural Network  
<https://www.geeksforgeeks.org/bidirectional-recurrent-neural-network/>
- ❑ Language Translation with RNNs  
<https://towardsdatascience.com/language-translation-with-rnns-d84d43b40571>
- ❑ The ultimate Showdown: RNN vs LSTM vs GRU - Which is the best?  
<https://www.shiksha.com/online-courses/articles/rnn-vs-gru-vs-lstm/>

## Transformers

- ❑ Self Attention in Transformer Neural Networks  
[https://www.youtube.com/watch?v=QCJQG4DuHT0&ab\\_channel=CodeEmporium](https://www.youtube.com/watch?v=QCJQG4DuHT0&ab_channel=CodeEmporium)

# شكراً لكم

# Thank you



**SDAIA**

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