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Audio data

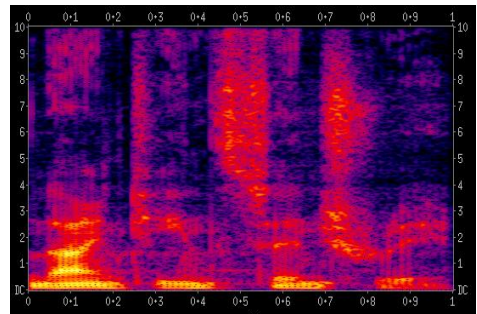
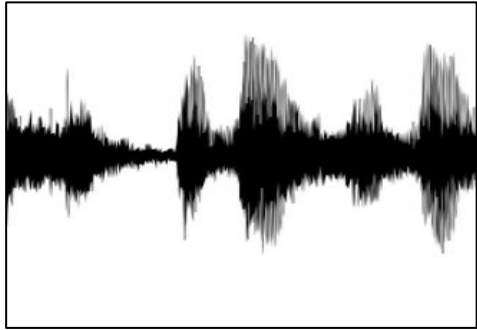
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Speech recognition

# Speech recognition problem

$x$

audio clip



$y$

transcript

“the quick brown fox”

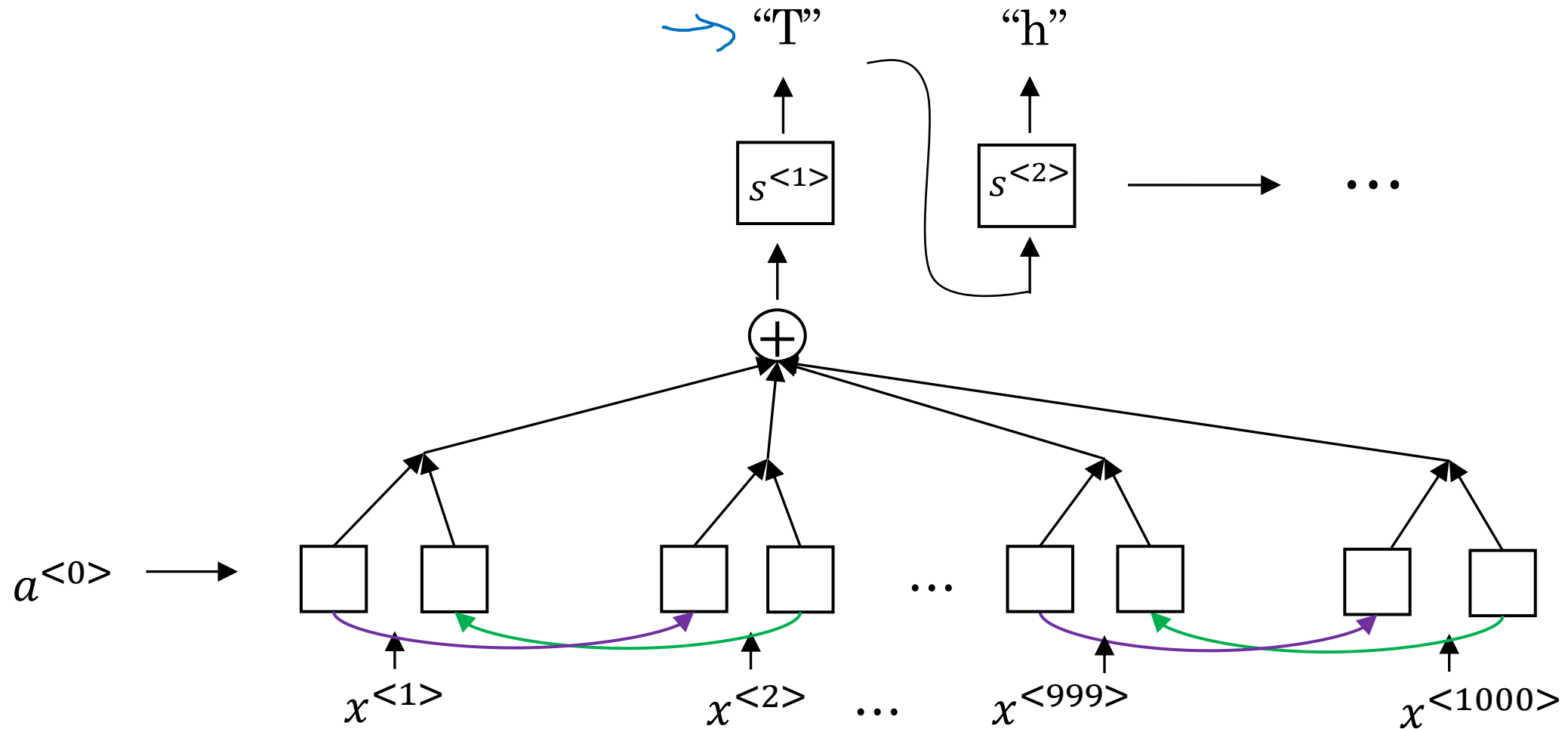
→ phonemes: de kwik braun

300h

3000h

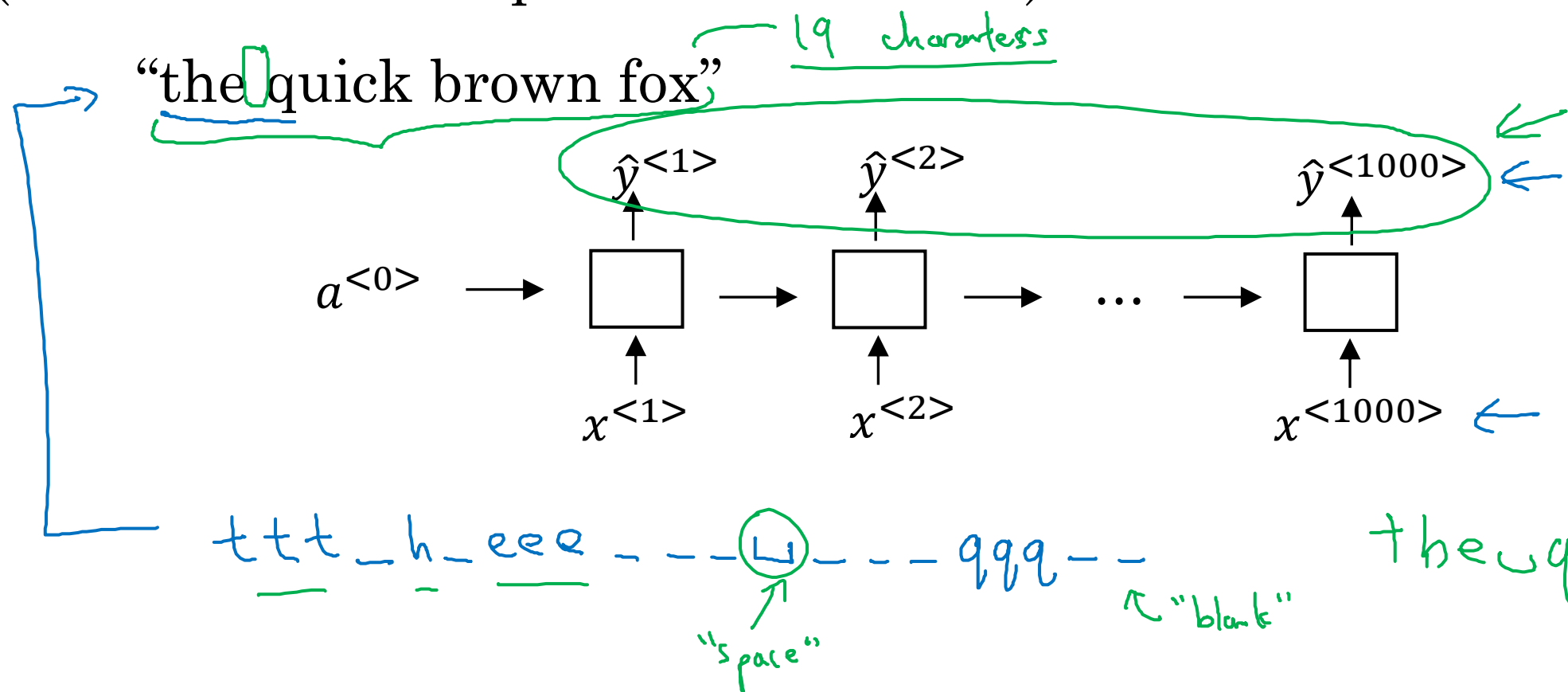
100,000h

# Attention model for speech recognition



# CTC cost for speech recognition

(Connectionist temporal classification)



Basic rule: collapse repeated characters not separated by “blank”



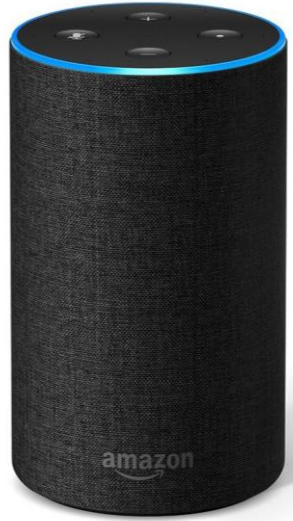
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Audio data

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Trigger word  
detection

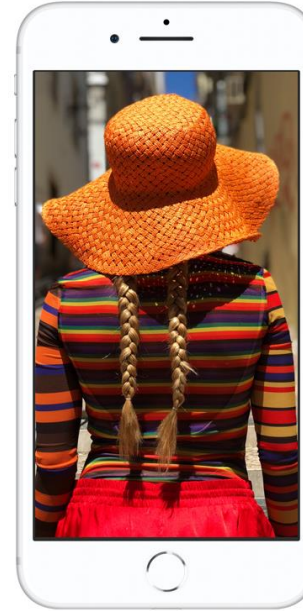
# What is trigger word detection?



Amazon Echo  
(Alexa)



Baidu DuerOS  
(xiaodunihao)

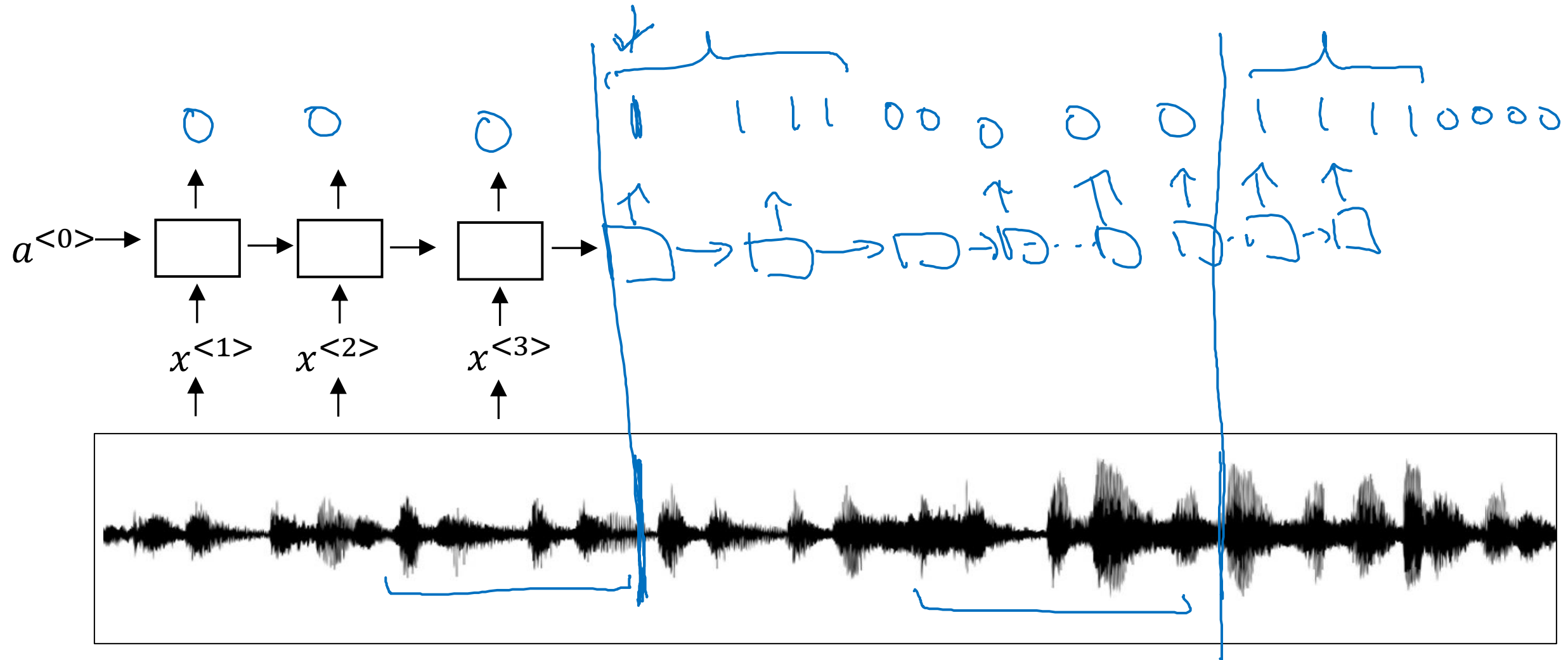


Apple Siri  
(Hey Siri)



Google Home  
(Okay Google)

# Trigger word detection algorithm





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# Conclusion

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# Summary and thank you



# Specialization outline

1. Neural Networks and Deep Learning
2. Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization
3. Structuring Machine Learning Projects
4. Convolutional Neural Networks
5. Sequence Models

# Deep learning is a super power

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*Thank you.*

*- Andrew Ng*