

# Seq2Seq Applications in 2024

## Translation

*Google Translate  
DeepL*

100+ languages  
Real-time  
Offline mode

## Chatbots

*Customer Service  
ChatGPT*

Context aware  
Multi-turn  
Personalized

## Code Gen

*GitHub Copilot  
Tabnine*

Comment → Code  
Bug → Fix  
Refactoring

## Speech

*Whisper  
Siri*

Audio → Text  
Multilingual  
On-device

## Summarization

*News → Headlines  
Docs → Abstract*

Extractive  
Abstractive  
Multi-document

## Vision

*Image Captioning  
Video Description*

CNN encoder  
LSTM decoder  
Attention over regions