

Deep Learning for Natural Language Processing (NLP)

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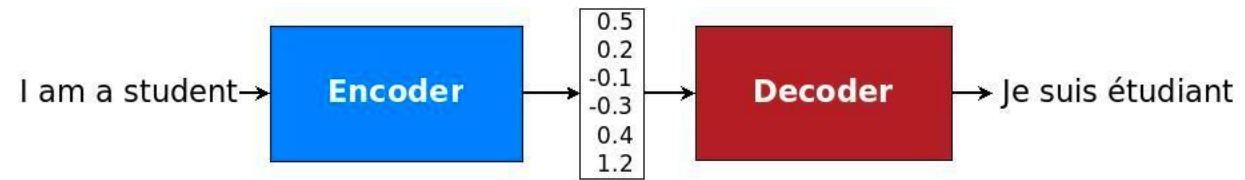


Figure 1. **Encoder-decoder architecture** – example of a general approach for NMT.

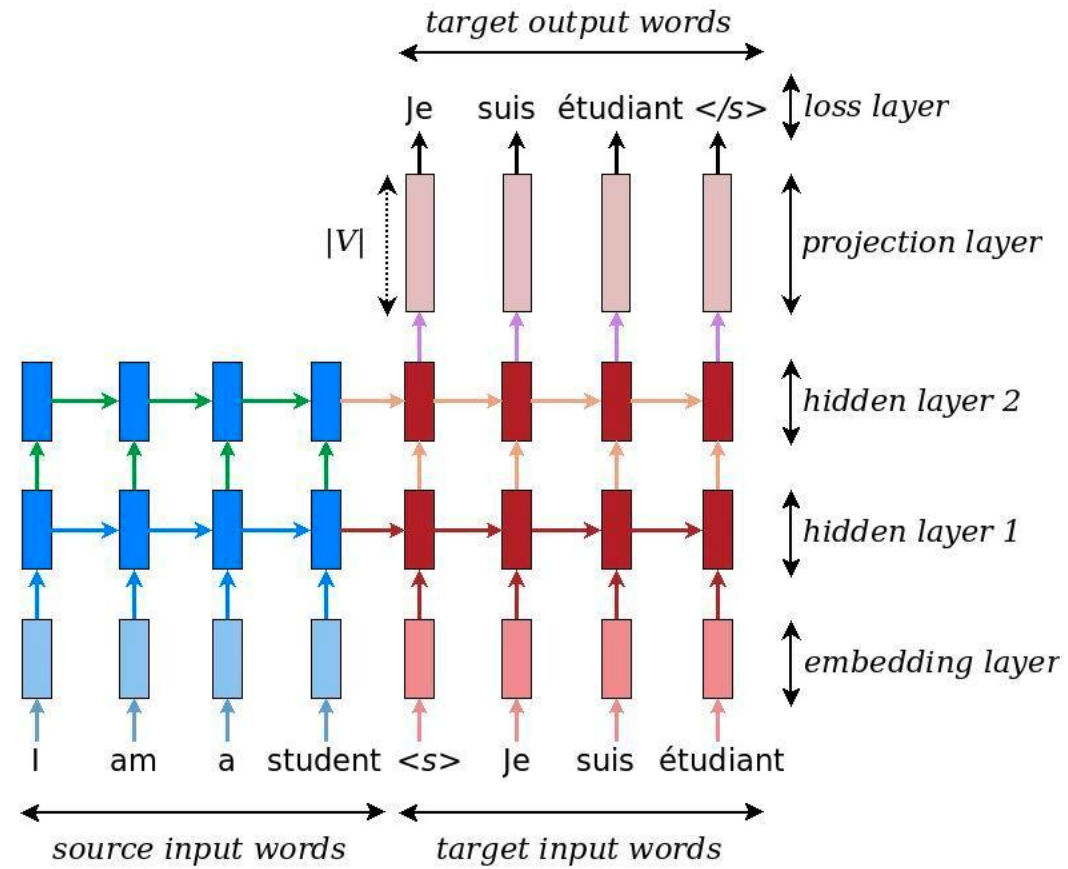


Figure 2. **Neural machine translation** (without attention)

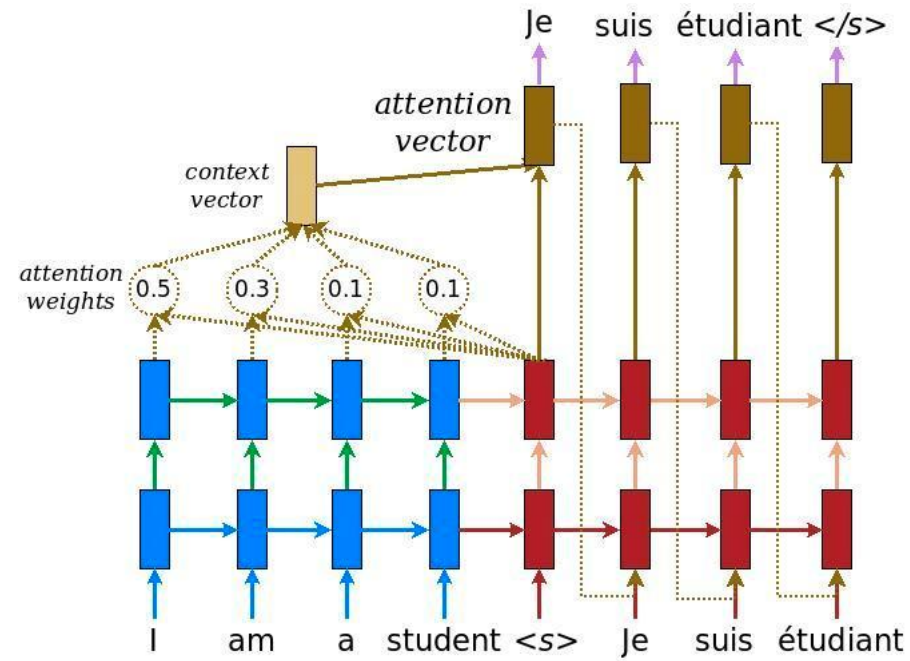


Figure 3. **Attention mechanism**

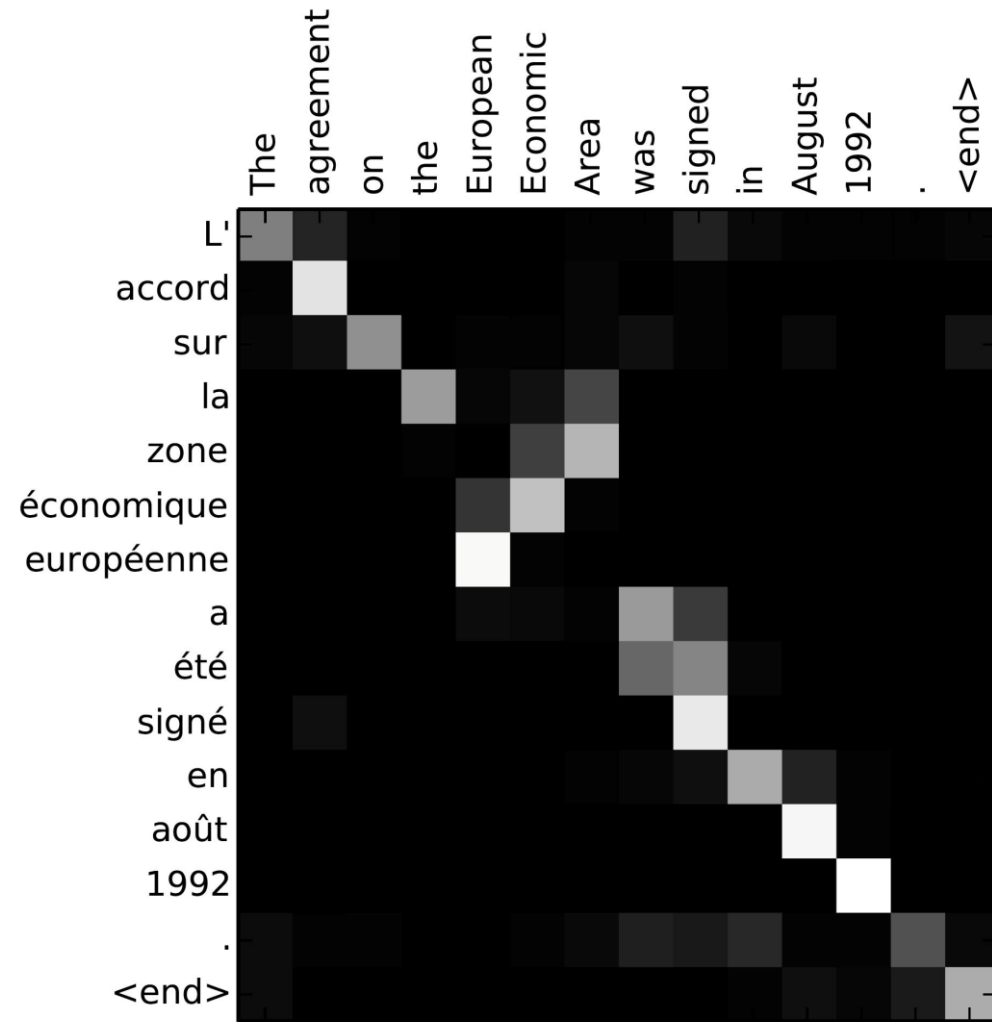


Figure 4. Attention visualization

Some example outputs

- Original: Họ nghĩ rằng Torosaurus nên được giữ lại còn Triceratops thì bị bỏ đi , nhưng điều đó sẽ không xảy ra đâu .
 - Reference: They thought Torosaurus should be kept and Triceratops thrown out but that's not going to happen.
 - Predicted: They think <unk> should be <unk> but that's not going to happen but that's not going to happen.
 - Google: They thought that Torosaurus should be kept and Triceratops to be removed, but that won't happen.
-
- Original: Trích dẫn thứ hai đến từ người đứng đầu Cơ Quan Quản Lý Dịch Vụ Tài Chính Vương Quốc Anh .
 - Reference: The second quote is from the head of the u.k. financial services Authority.
 - Predicted: The second <unk> of the people who started to <unk> the <unk> <unk> .
 - Google: The second quote comes from the head of the UK Financial Services Authority.
-
- Original: Vì trong 4 năm trước , chúng tôi đã quan sát tất cả các thành viên . Tất cả những khuy nh hướng để cho ra đời ngay trang nhất .
 - Reference: Because in the last four years we've seen all kinds of memes , all kinds of trends get born right on our front page .
 - Predicted: Because in 4 years we've got to <unk> all the <unk> to <unk> all the <unk> .
 - Google: Because in the last 4 years, we observed all the members. All trends to give birth to the front page.