

## <주요 Q&A>

### An approach in Vietnamese handwritten OCR for financial and manufacturing sectors

Q1. What are those challenges that does not exist in other neural networks but exists in GNN?

In my thought, unpacking also would be depend on data-set.

Q2. ocr로 베트남언어를 추출할 수 있다면 우리나라 한자도 가능하지 않을까요? 또 한자는 우리나라 와 중국어가 다른데 혹시 이런 것이 국가별로 적용하는 기술이 다른 것인가요?

I think extracting word is possible for any kind of language. I personally have done OCR for Bengali (looks quite the same with Indian). For Korean and Chinese character, the approach will be little bit different and we will need knowledge about the particular language to choose the most efficient approach.

Q3. 금융분야에 handwritten OCR을 적용할 때 유의해야 할 사항들에 대해서 질문 드립니다.

It really depends on the problem you and your customers are facing. For examples, some unique kind of documents will have unique difficulties and we will need error analysis to spot the problem for each task.

Q4. 이름이나 약자등은 인식하기 올바르게 인식하기 어려울까요?

Yes it is. Currently our model still facing problem with abbreviation for two reason: firstly it do not have clear semantic meaning, so it's hard for language model to guess. Second, there is not much abbreviation sample training image dataset, so the OCR vision model also do not work really well against those cases.

Q5. 같은 사람이라도 조금씩 필체가 다를 수 있는데 그 부분까지 잡아내는건가요?

Yes. In fact, we also use slight distortion and other kinds of augmentation such as noise adding, blur, etc. so CNN still works well with small variation in hand writing

Q6. 필기체 인식을 이용하여 같은 사람이 쓴 글씨인지 판단도 가능한가요? 대필인지 자필인지?

To identify the unique writers of each words, I think it's possible (think of audio source separation or voice identification, face re-id problem etc.) but it will be a hard problem with a huge amount of training data required. For classifying handwritten and printed characters, I think the problem is much more easier and printed words can also be generated.