A robust approach for empowering beer business analysis
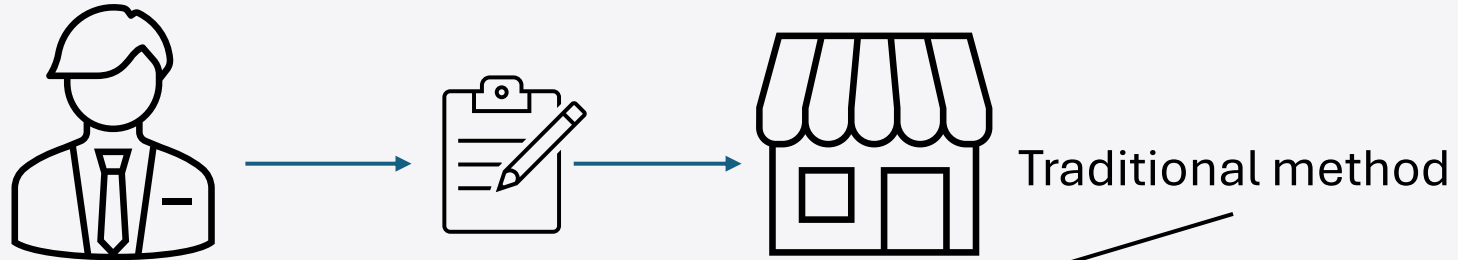
AIO_369

Trần Duy Tuấn

Mai Trung Kiên

Nguyễn Đại Anh Tuấn

1. Motivation

Traditional method

Our approach

We use AI model for all analysis tasks.

2. Our approach

YOLOv10 and Gemini are the backbone of our method. The Figure 1 outlines our process where an image is inputted into a system, YOLO detects objects and their bounding boxes, and this information is passed to Gemini. Gemini then analyzes the context, emotions, and actions to generate a descriptive sentence summarizing the image.
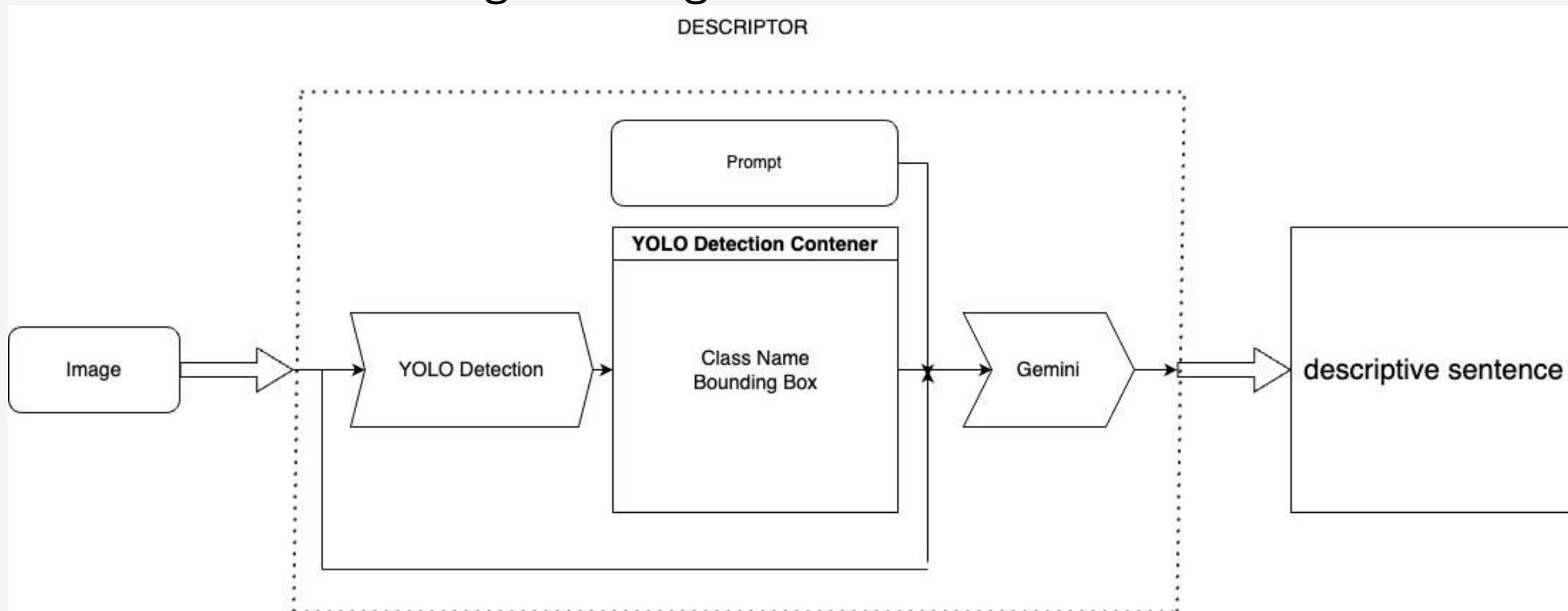

Figure 1. The pipeline for our proposed method

2. Our approach

To train YOLOv10, we conduct label on beer carpet, human face, brand staff, beer can, beer bottle, billboard, poster, brand logo

Figure 2. Result of pretrained YOLOv10 for detecting object

2. Our approach

We create a user-friendly app for use

Figure 3. UI for our approach

3. Result

Our approach solve almost the provided challenges, include:

- Business Challenge 2: Advertising Material Detection

- Business Challenge 3: Event Success Evaluation

- Business Challenge 4: Monitoring Marketing Staff

- Business Challenge 5: Evaluating Store Presence

- Context Identification

- Identifying Competitors' Logos

4. Our difficulty

During our work, we face several challenges:

1. Imbalanced labels in the training dataset.

2. The need for a suitable LLM model to enhance the task of context review.

3. Significant time spent configuring effective prompts for high performance.

4. Lack of ergonomic chairs, which cannot be adjusted properly, affecting our comfort and spine health. D:

Sorry, bro, there is no way I can fix it

5. Our future

- No need for the arrival of brand staff

Beer Staffs
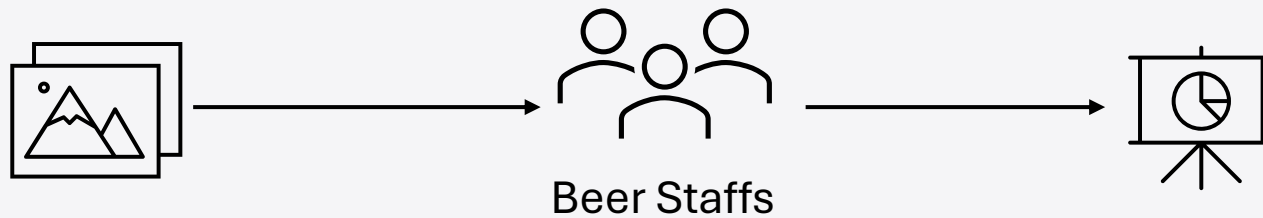
- Use 1 VQA model for all tasks: object detecting, context reviews and context analysis

Thank you for listening

We are AIO_369