

Demo Session: Price Discovery



Overview

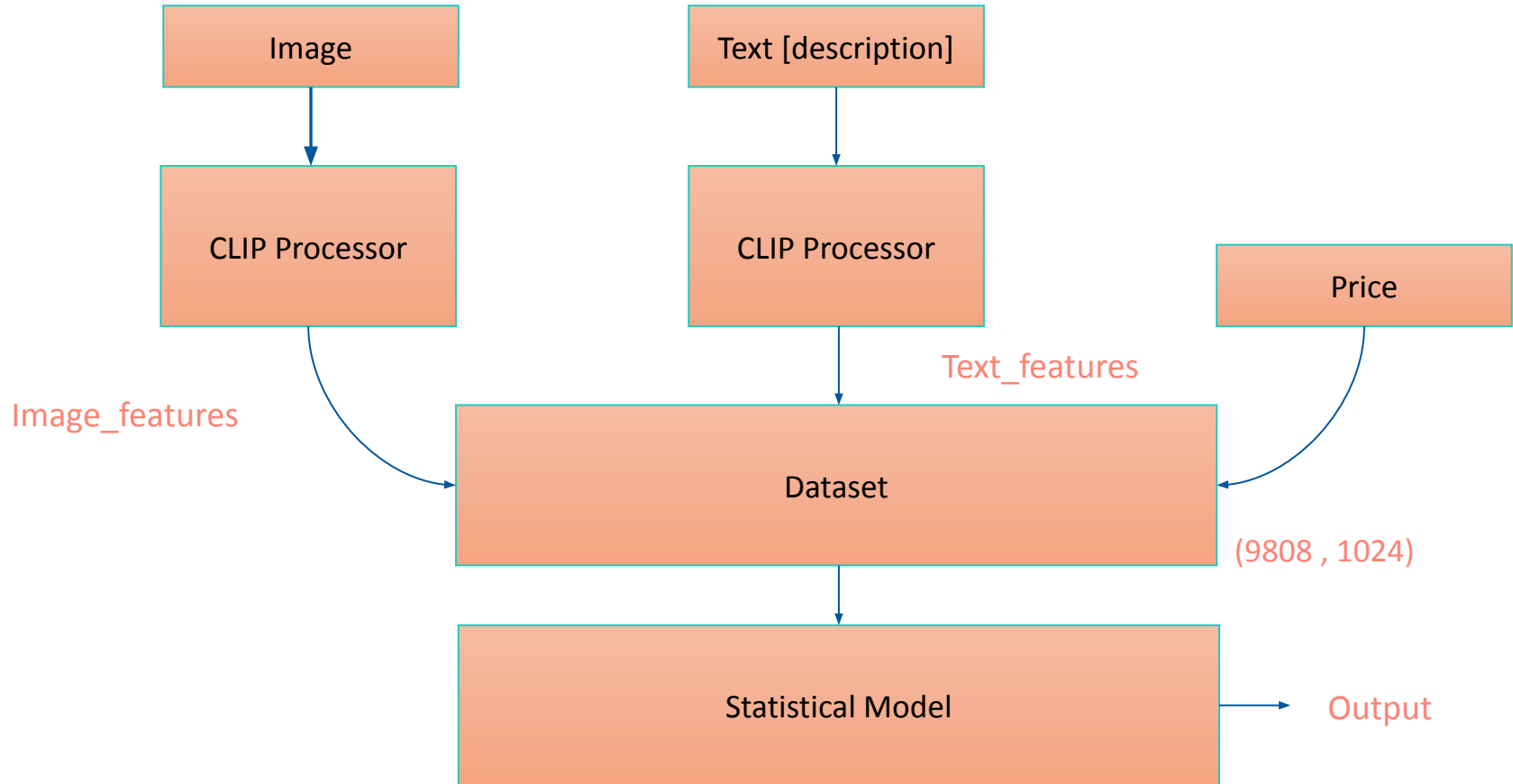
- What has been completed
- Current Progress
- Next Steps



Architecture 1



WORK FLOW



Steps Taken

- Pre-trained CLIP model
“openai/clip-vit-base-patch32”
- The text and image embeddings were stored locally.
- Experimented with different statistical model.

Evaluation Metrics

MAPE, R^2

Result

- All the regression models gave R2 score less than 60
- Random forest Regression

Mean Absolute Percentage Error: 0.5424376712163212
The R2: 0.5507796262435776

- XGBoost Regression

Mean Absolute Percentage Error: 0.5032389566606228
The R2: 0.5706636564954678

- LightGBM

Mean Absolute Percentage Error: 0.4537955541420232
The R2: 0.5115331470397461

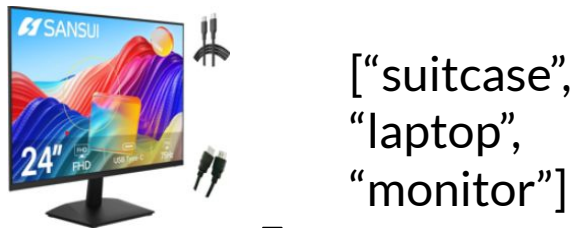
Plan for improvement

Fine tune the CLIP

Get categorized datas - focus on one category

Train with more data

Using CLIP to caption image with price



[0.012, 0.056, 0.932]



"monitor"



[0.044, 0.522, 0.434]



"\$110"

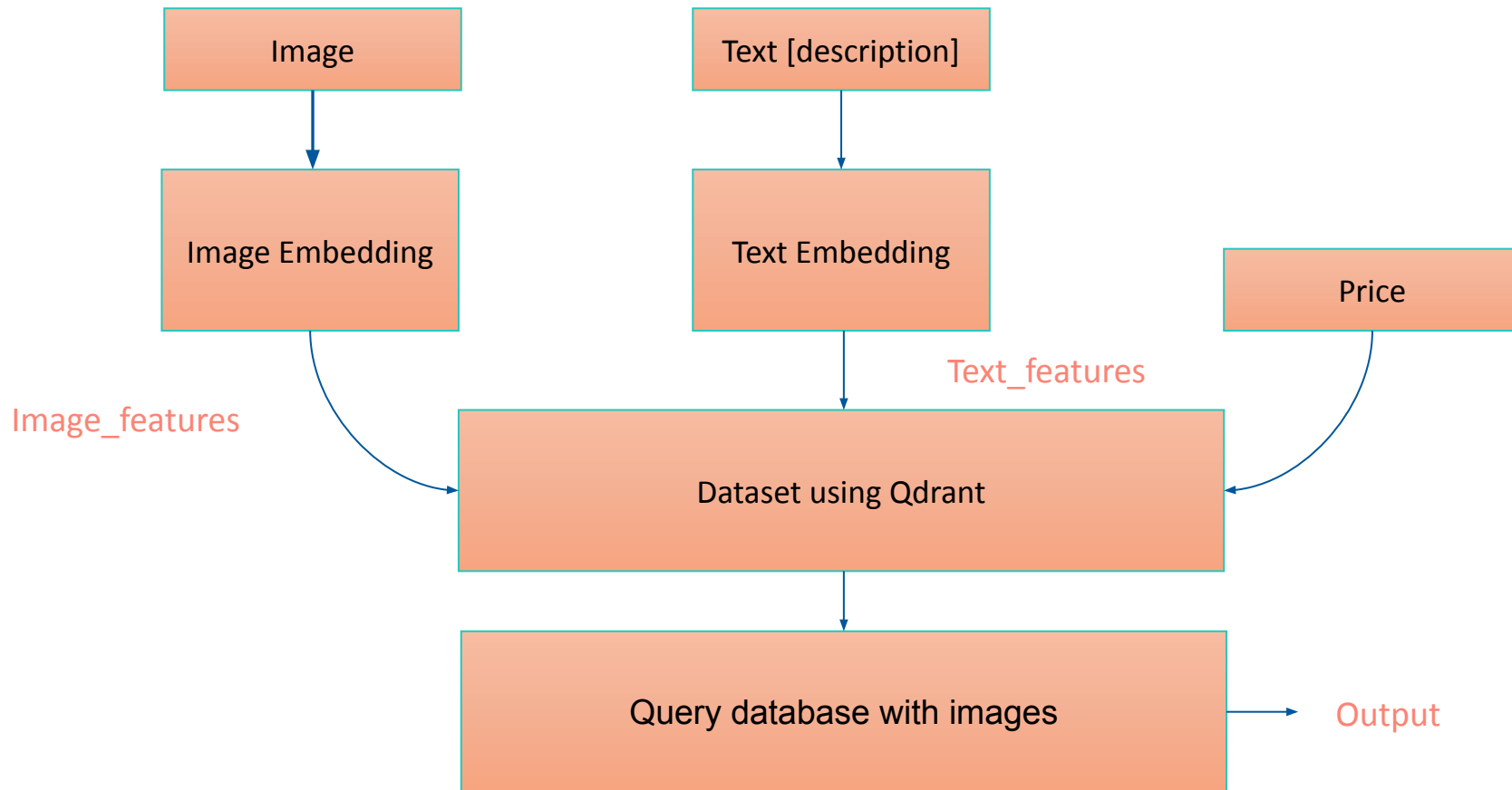
Architecture 2



Data Embedding

- Text and images embedded with multimodal embeddings from Google Gemini
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WORKFLOW



Plans for Improvement

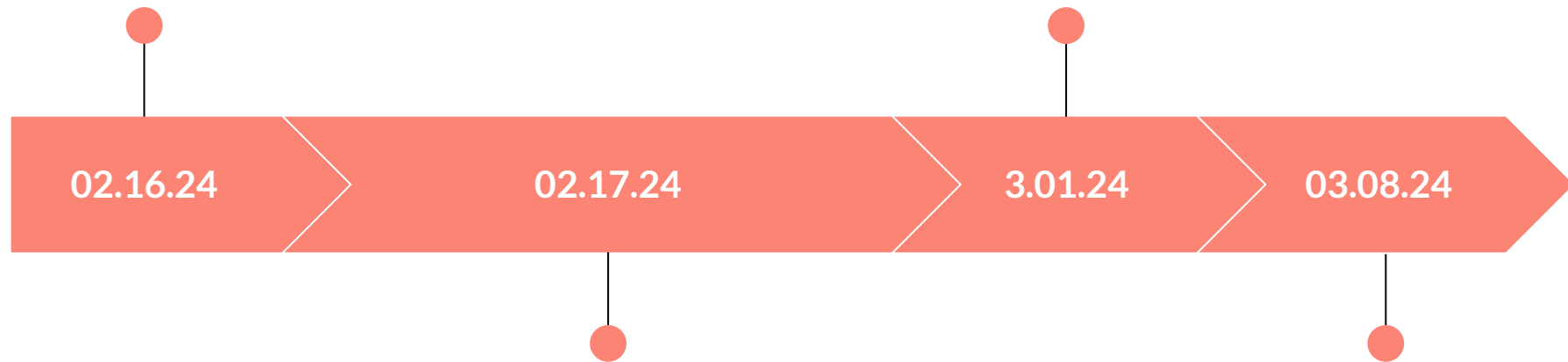
- Object recognition to extract more features for the model
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Next Steps



Image and Text
Embedded

Pipeline
Implementation



Models developed and
fined tuned

Product finalization &
Monitoring



Questions?

