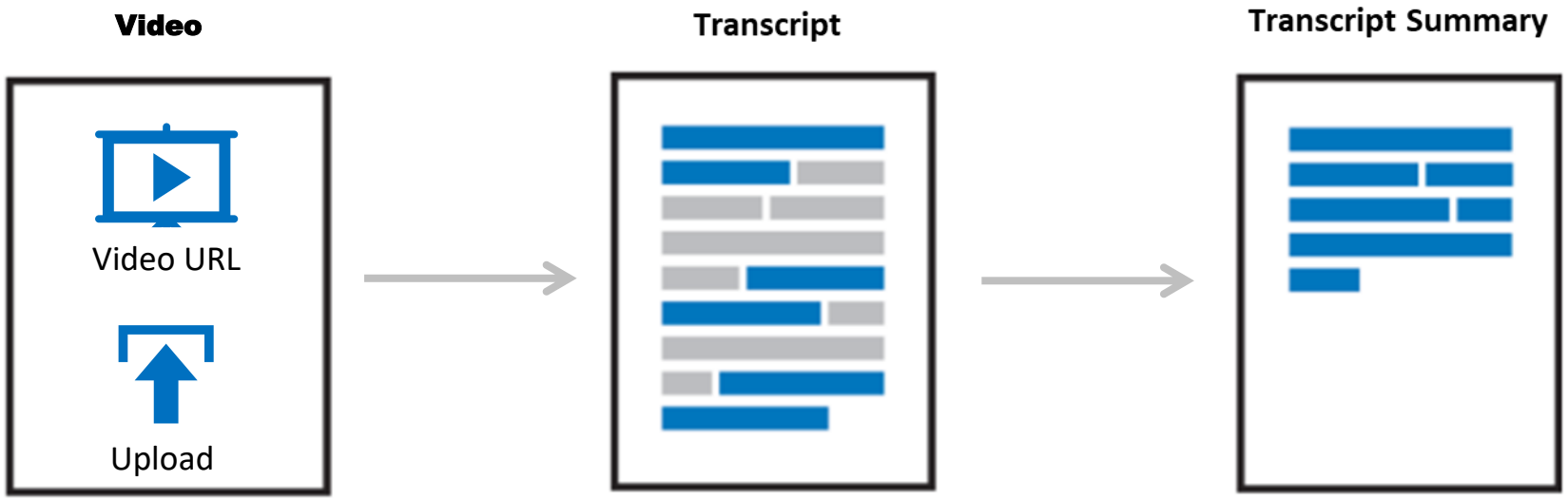
VideoTLDR

Converting long videos to quick reads!

Product Concept – Problem and Solution



Product AI Canvas

Opportunity

There are several long videos online. Video summarization involves understanding research and non-research videos

Consumers

Segment A: Students, Journalists
Segment B: Researchers, Analysts
Segment A and B consume long lecture/news and research videos respectively.

Strategy

- Segmented strategy will enable users to choose between researchers and non-researchers
- Minimalist UI
- Fast Access

Data

Long-videos have been processed to generate transcripts that are trained.

Solution

Quick reads are generated by fitting the data with more than 30 pre-trained models like BART, PEGASUS, etc.

Success Criteria

Summary generated is semantically coherent with the long-video's generated transcript.

Product Team

Researcher

- ✓ Helps improve accuracy for research video summarization
- ✓ Curates research community interests

Software/Data Engineer

- ✓ Pre-processing of videos into transcripts (text)
- ✓ Deployment of the model in production pipelines

Data Scientist

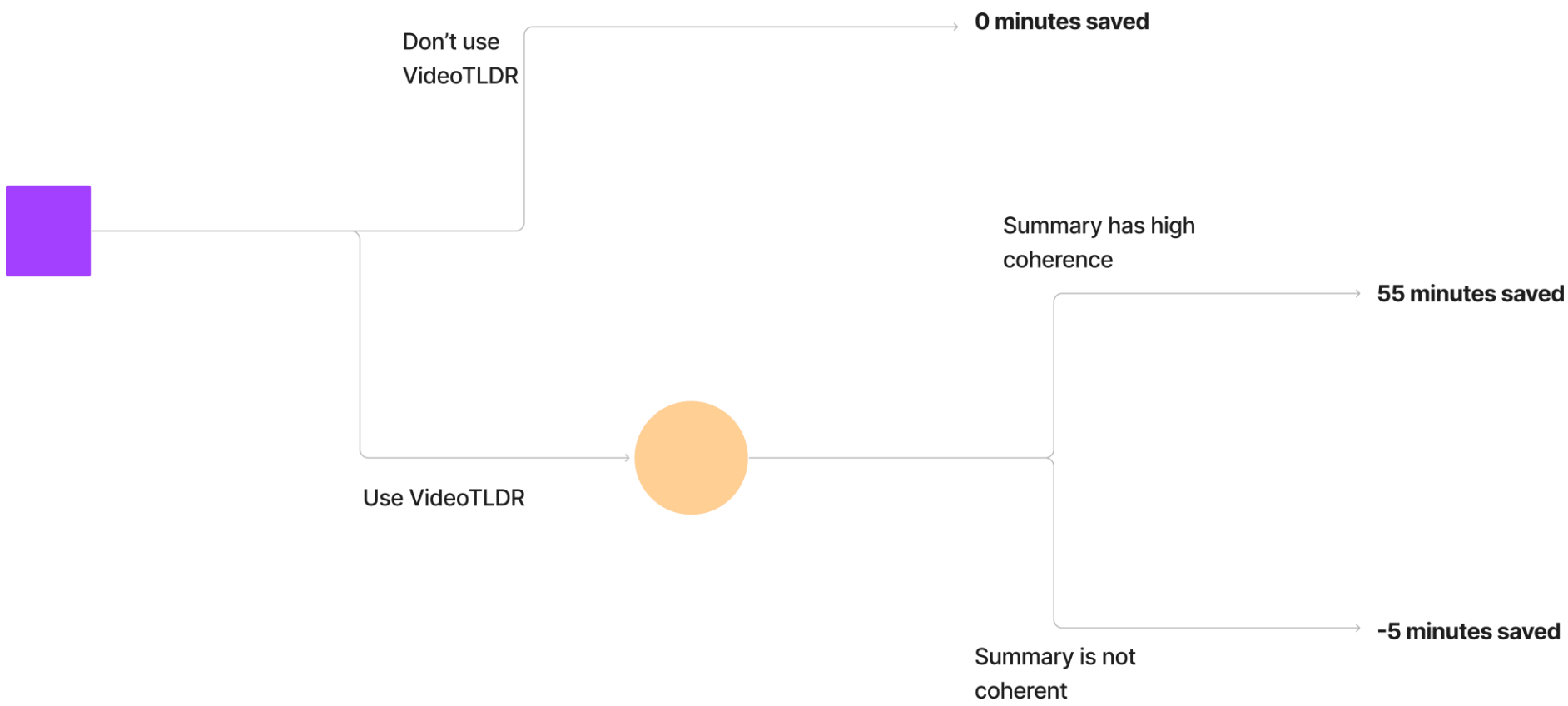
- ✓ Experiment with models
- ✓ Model Selection and Testing
- ✓ Model monitoring

Product Manager

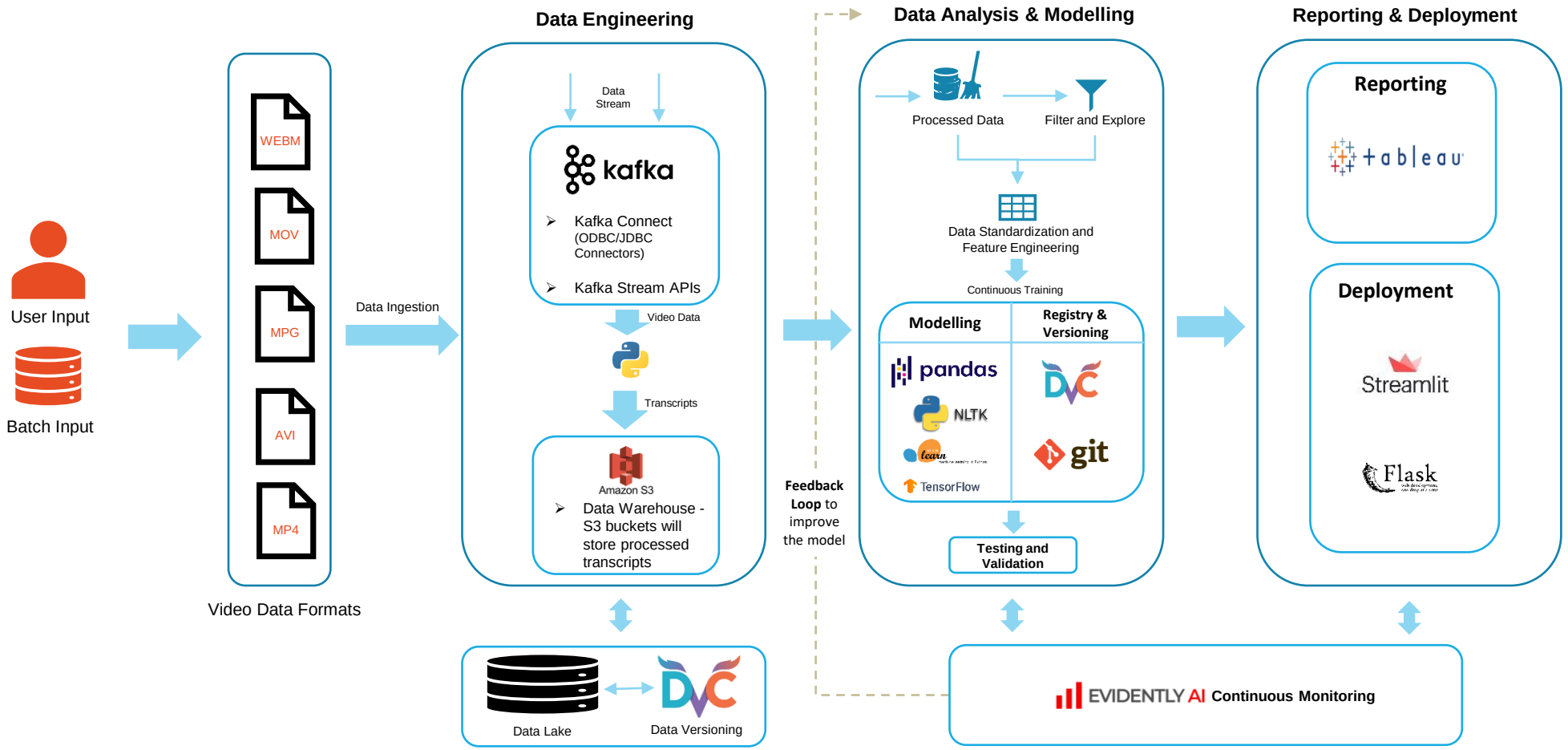
- ✓ Managing the product backlog and roadmap
- ✓ Managing customer experience
- ✓ Defining and monitoring success metrics

Value

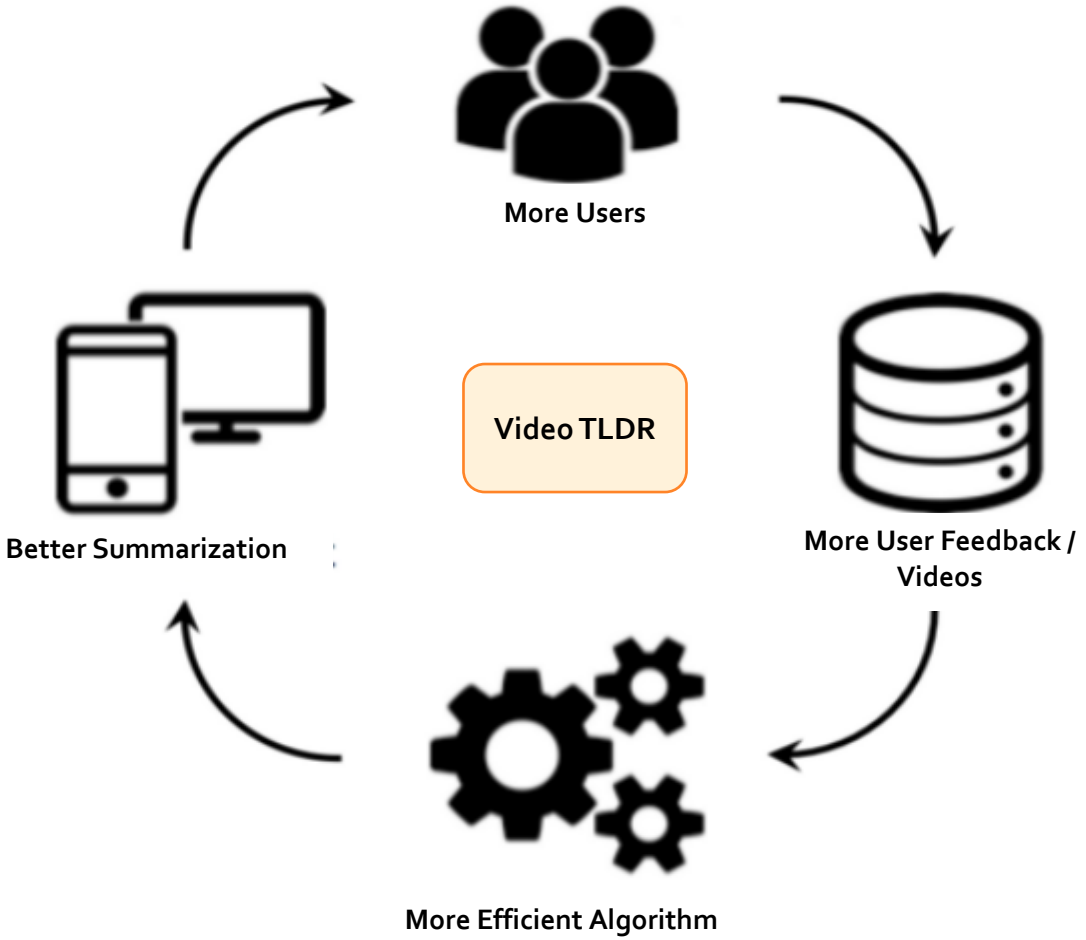
Let say, there is a video of length: 60 minutes. Our model generates a summary of 5 minutes read



Architecture



Data Flywheel



Model Selection and Metrics

Extractive Summarization

Extract important sentences/pieces from original text

Frequency-driven Summarization

- ✓ Word Probability
- ✓ TF-IDF (Baseline)

Abstractive Summarization

Generate new sentences from original text

Deployed

- ✓ BART
- ✓ PEGASUS

Metrics

- ✓ Quantitative – ROGUE-N
- ✓ Qualitative – Human Evaluation/User Feedback

Model Selection Criteria

- ✓ Latency
- ✓ Dataset used for training

Lessons from the MVP

- ✓ **Generate Direct Video Summaries**
  Currently: Video to transcript to summaries
  Can be replaced with models that can directly summarize videos

- ✓ **Upgrade Deployment**
  Currently: Streamlit is being used which is good for MVP but not for scale
  Since the videos are large, and we are dealing with data at scale, it is essential to upgrade the deployment to something more scalable like using Flask

- ✓ **Improving results for Topical Videos**
  Currently: All videos are equal
  Summarization model can be improved for videos searched around more popular topics. For instance, recent news, famous lectures, talks, etc.

Demo

Streamlit App

Link

Thank You!