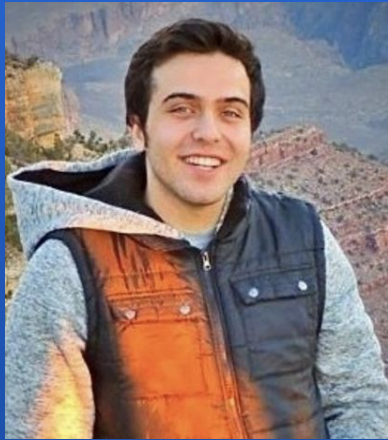# AdVizion
Capturing Attention, Transforming Advertising with AI

Amir Moazami

Maryam Feizabad

Soroush Yazdani

Introduction of The Team

Welcome to our team! We're a dedicated cohort of data scientists, leveraging AI to redefine e-commerce visuals and drive impactful results.

Amir Moazami
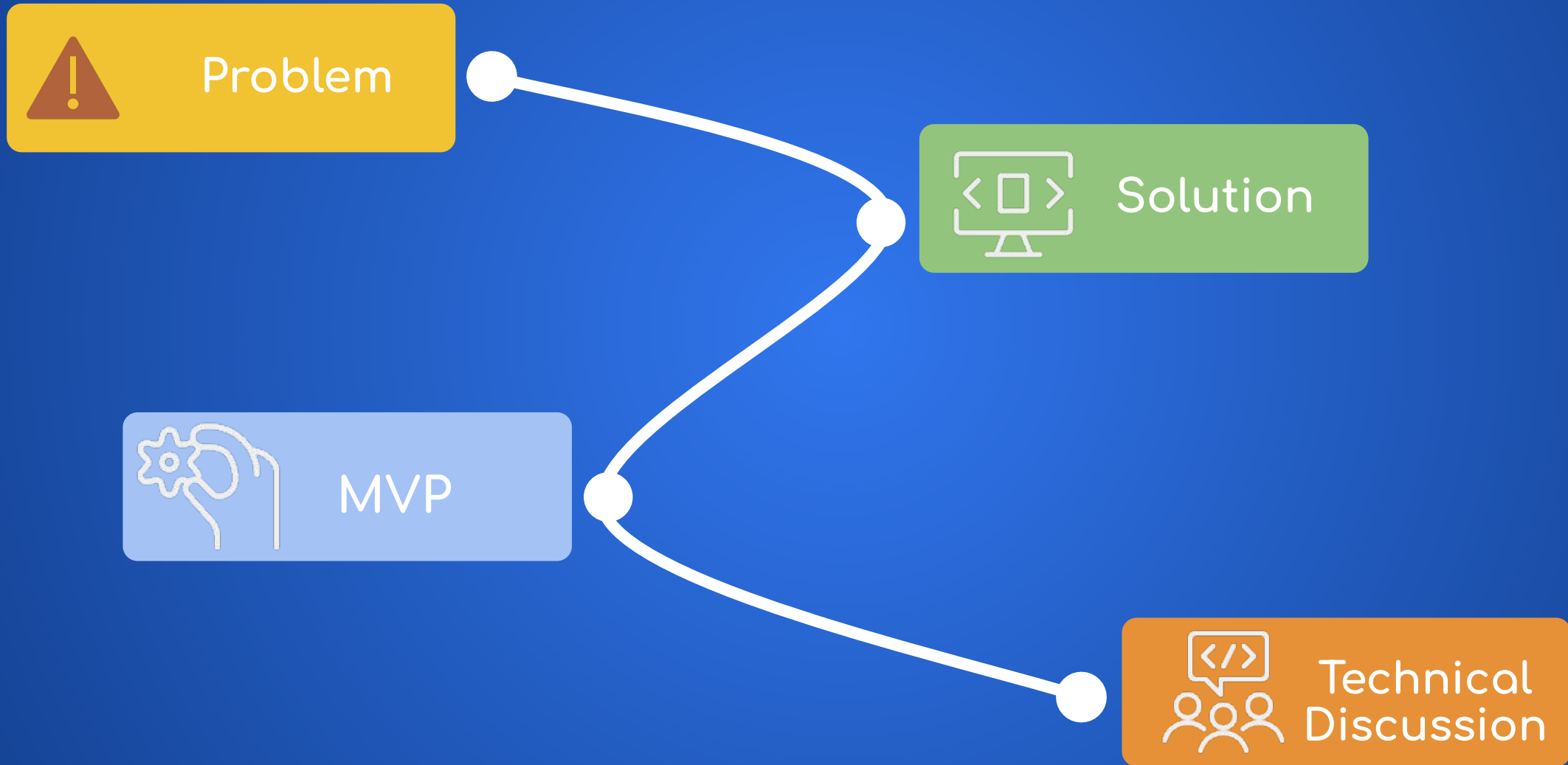Lead ML Engineer
Product Architect

Maryam Feizabad
Product Manager
Project Liaison

Soroush Yazdani
ML Engineer
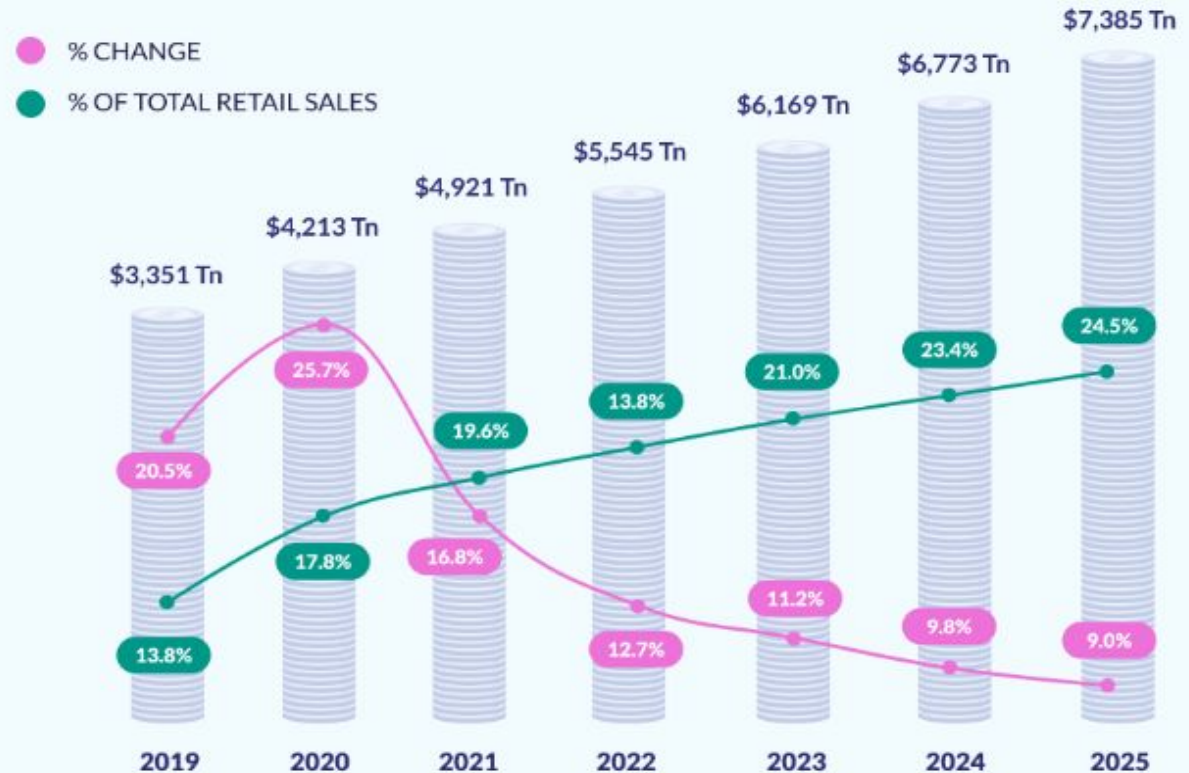Software Developer

The Path We Took

What Stops Your Scroll and Drives Action?

E-Commerce: Transforming Digital Advertising

- Global retail e-commerce sales are projected to reach **$7.4 trillion by 2025**[1]

RETAIL ECOMMERCE SALES WORLDWIDE 2019 - 2025

- % CHANGE
- % OF TOTAL RETAIL SALES

$3,351 Tn — 2019 — 20.5% — 13.8%
$4,213 Tn — 2020 — 25.7% — 17.8%
$4,921 Tn — 2021 — 19.6% — 16.8%
$5,545 Tn — 2022 — 13.8% — 12.7%
$6,169 Tn — 2023 — 21.0% — 11.2%
$6,773 Tn — 2024 — 23.4% — 9.8%
$7,385 Tn — 2025 — 24.5% — 9.0%

A graph showing the retail ecommerce sales worldwide between the years 2019 - 2025. You can see that as retail ecommerce grew the % change fell in 2020.
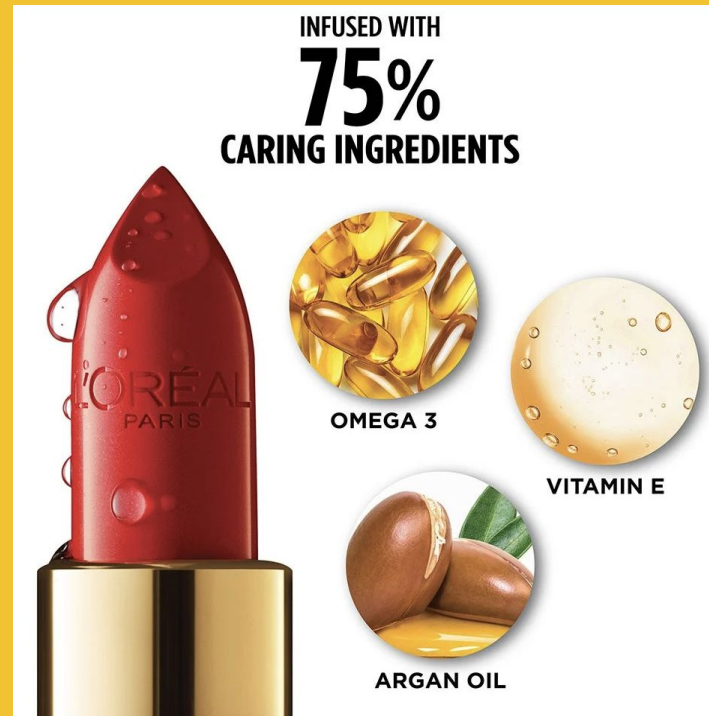
Source: https://www.websitebuilderexpert.com/building-online-stores/ecommerce-statistics/
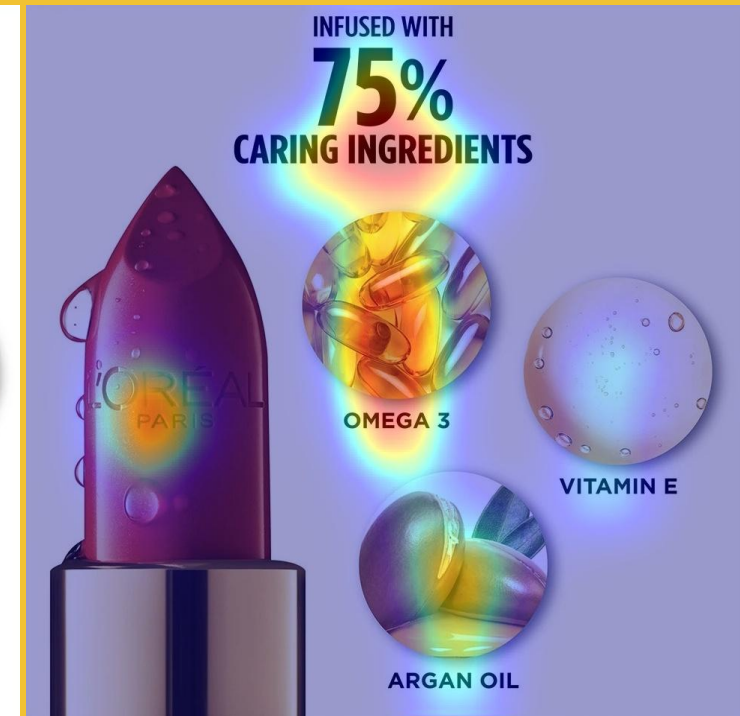
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What's The Problem?

Online shopping dominates, making images and videos crucial for capturing attention.
Many e-commerce platforms fail to optimize visual content effectively.

Poor insights into customer preferences lead to missed opportunities for sales and engagement.
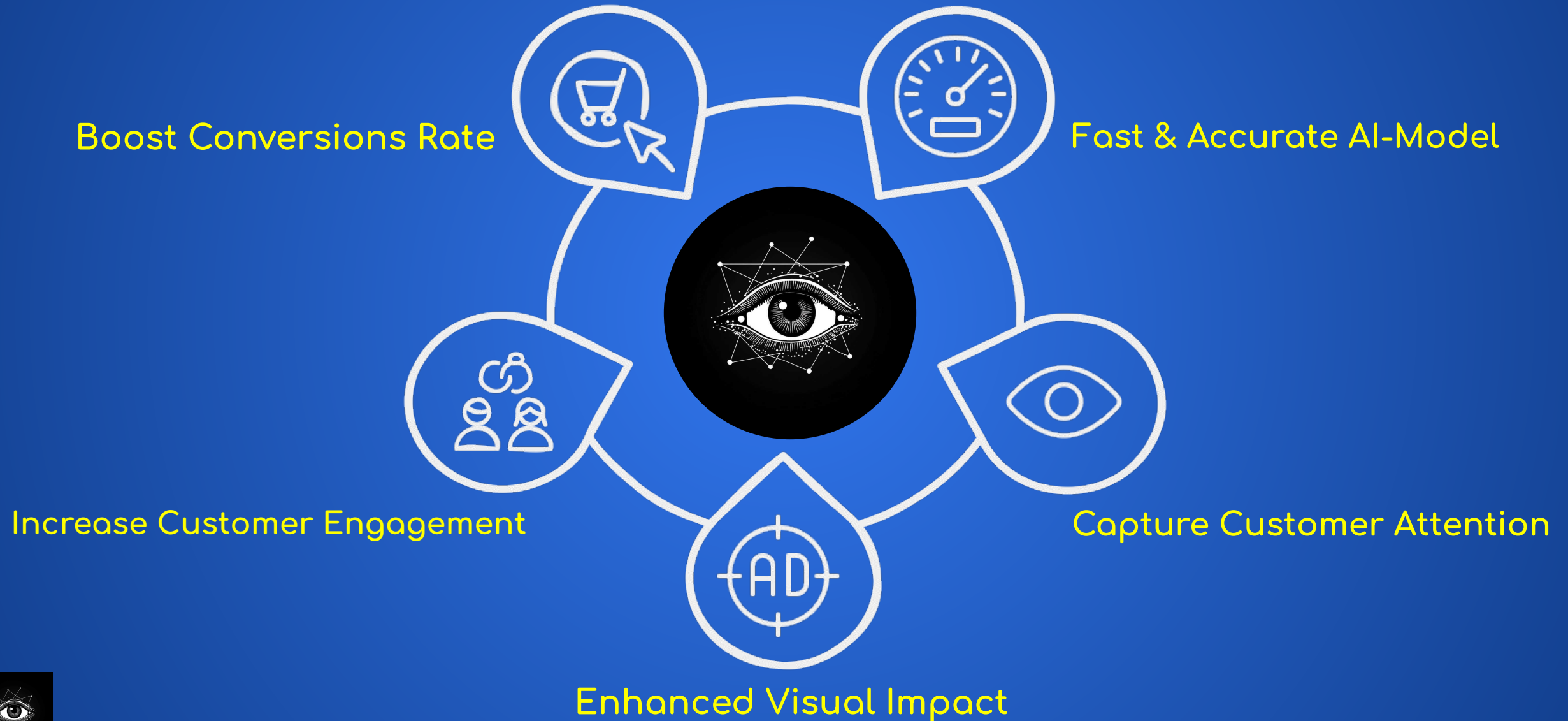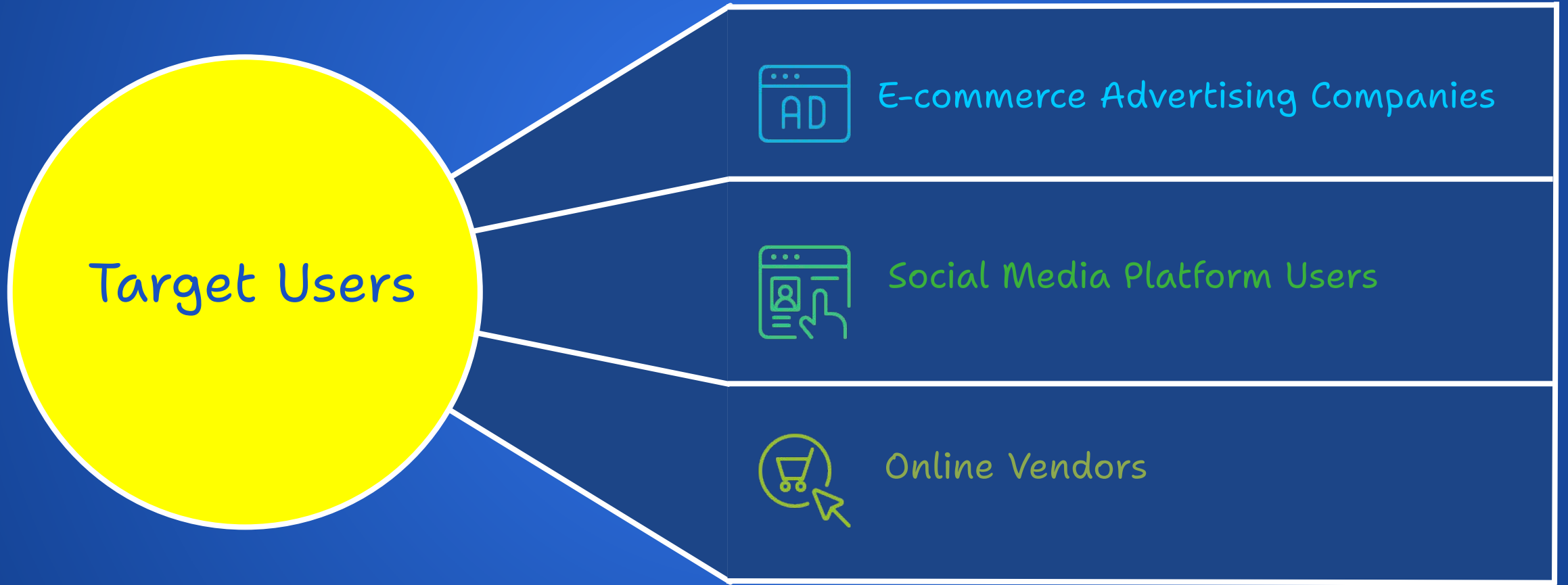
Input

Output

Solution & Impact

Boost Conversions Rate

Fast & Accurate AI-Model

Increase Customer Engagement

Capture Customer Attention

Enhanced Visual Impact

Target Users

Target Users

E-commerce Advertising Companies

Social Media Platform Users

Online Vendors

Advizion

Mission Statement

- Harnessing the power of AI-driven insights to revolutionize e-commerce and marketing.

- We empower businesses to command **attention, captivate customers**, and fuel growth with **optimized** and **high-impact visuals.**
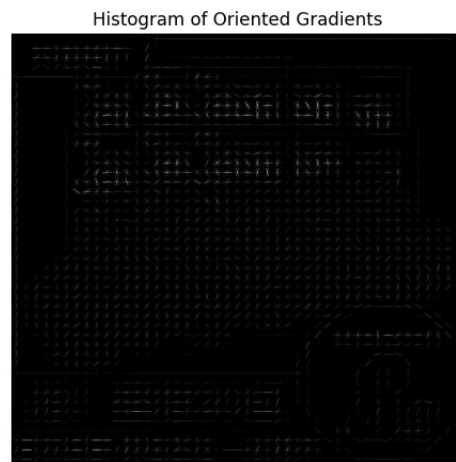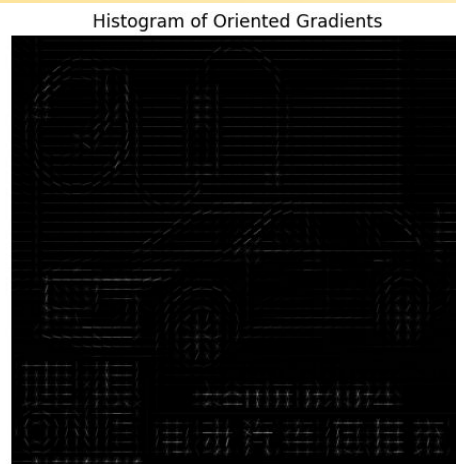
Technical Discussion

Dataset

- e-commercial Dataset:
  Saliency E-commerce
  Images dataset (SalECI)
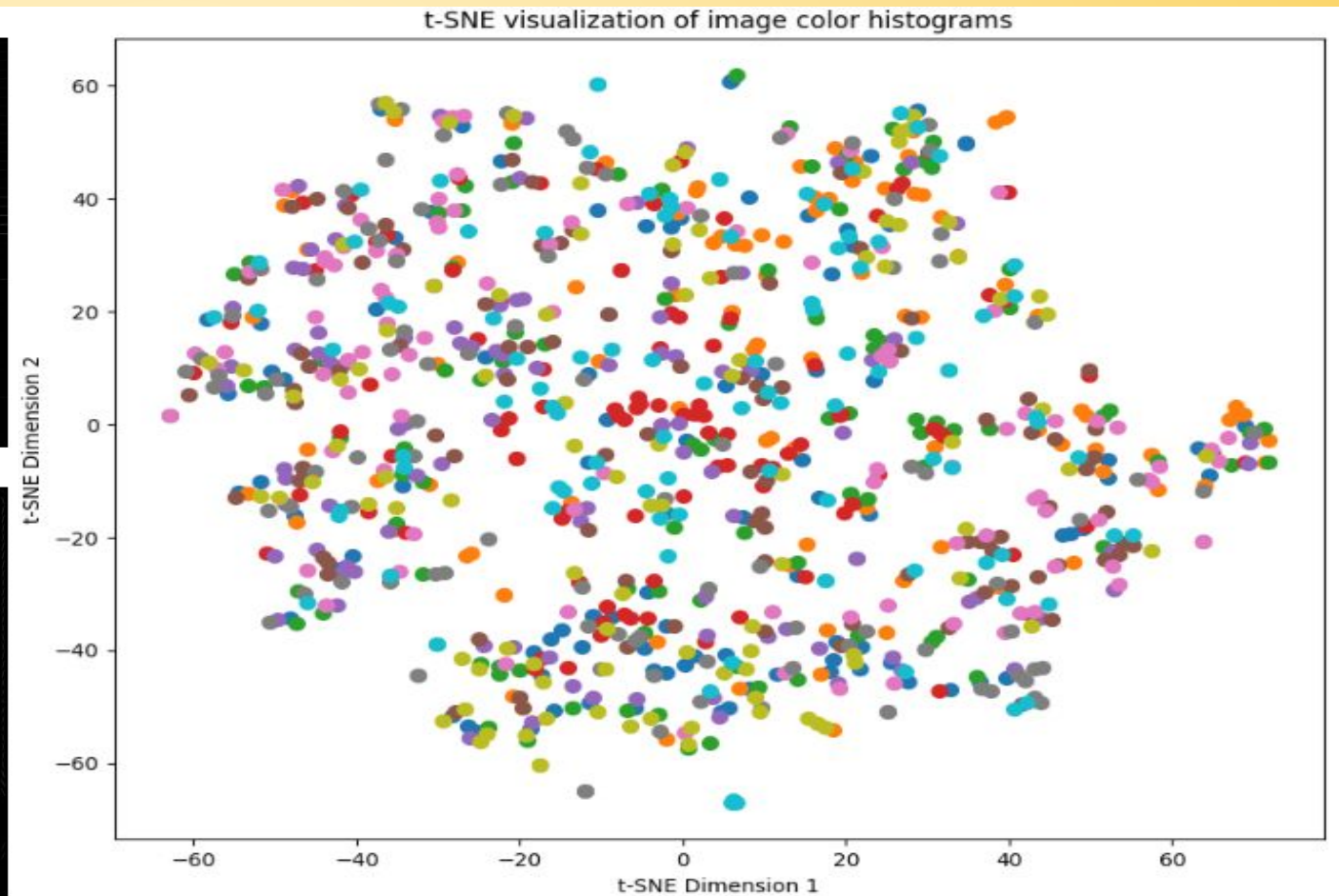
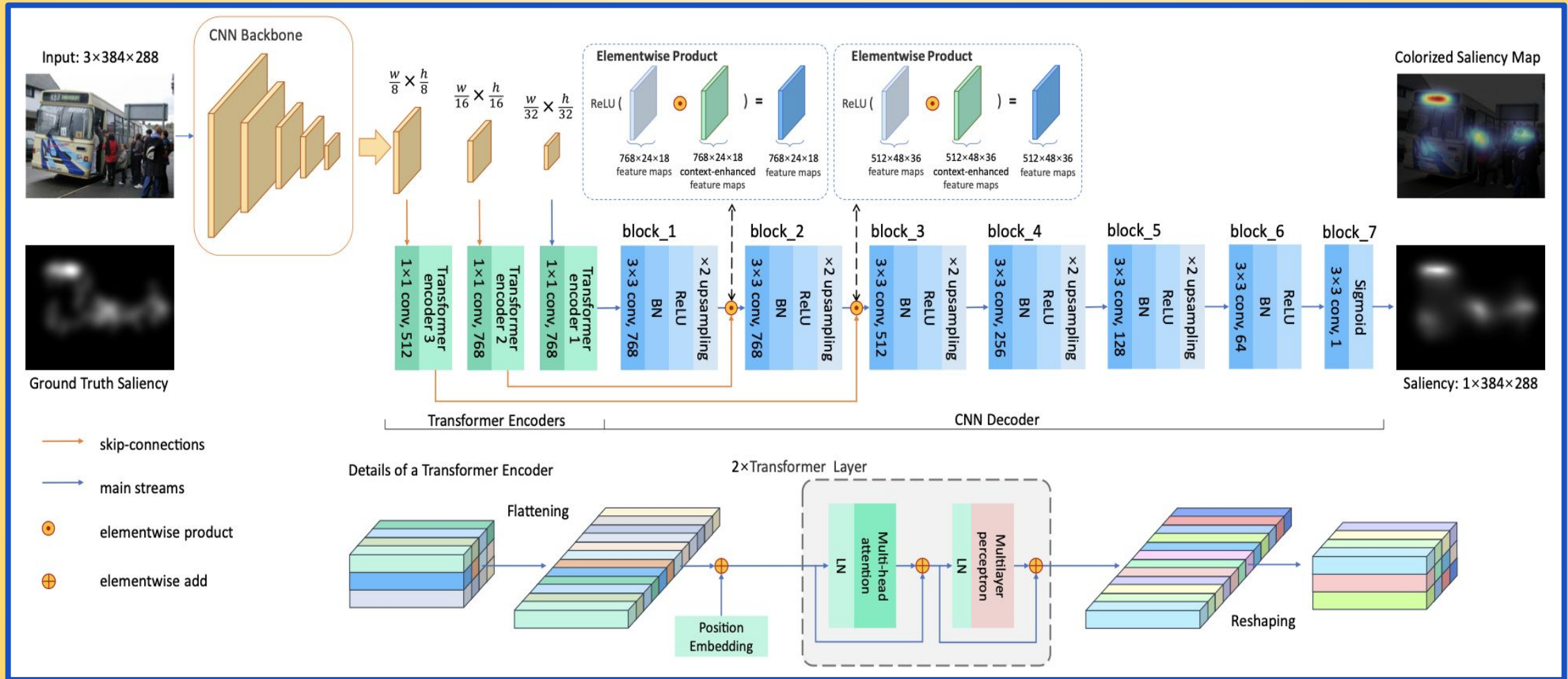- 972 e-commerce images, 13
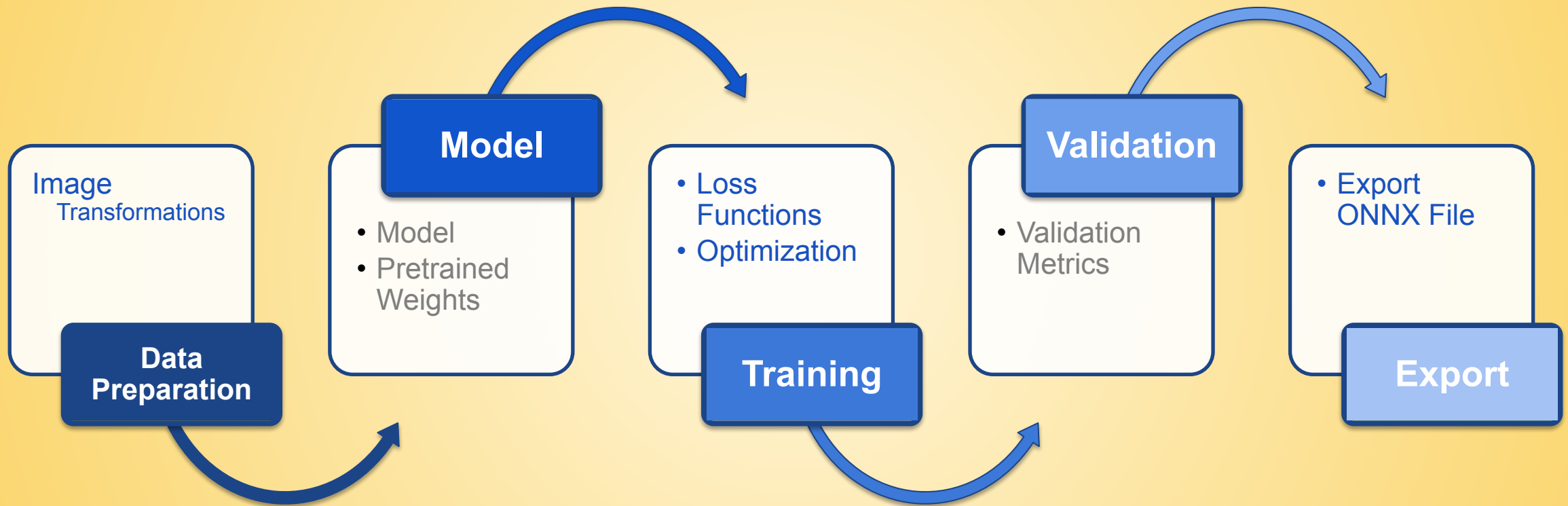 categories
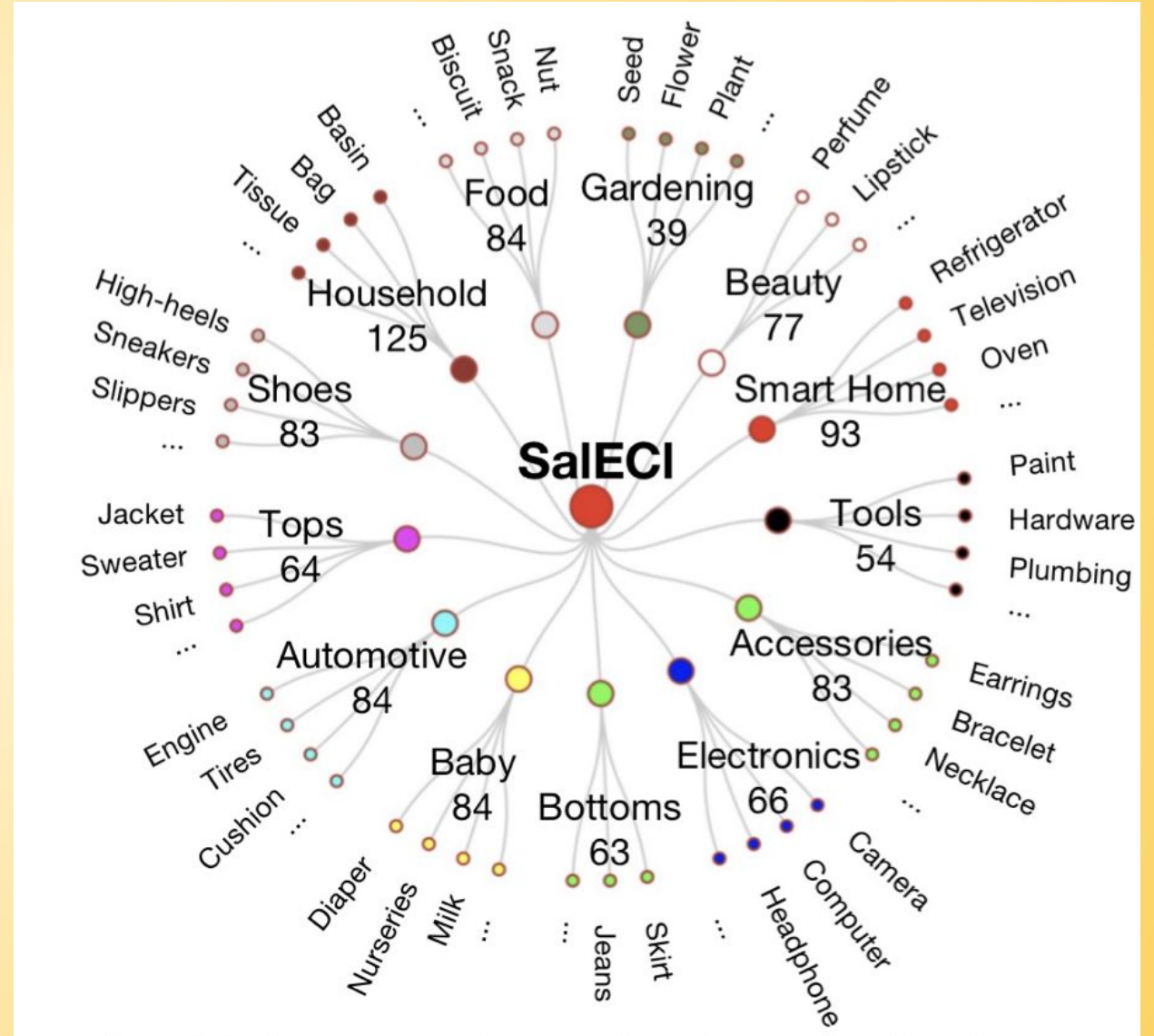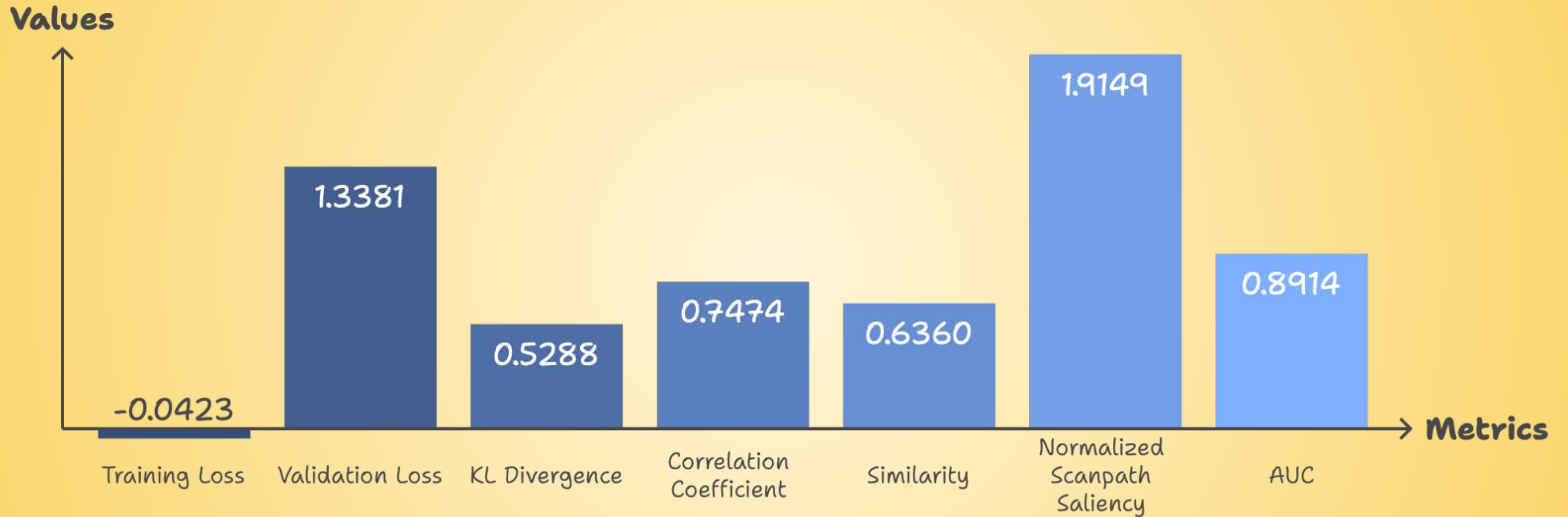
Exploratory Data Analysis

HOG Study

t-SNE Study

Technical Discussion – TranSalNet Model

AdVizion Custom Model (Fine-Tuned Model)

Data Preparation
- Image Transformations

Model
- Model
- Pretrained Weights

Training
- Loss Functions
- Optimization

Validation
- Validation Metrics

Export
- Export ONNX File

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Fine-tuning Advanced Saliency Model

Performance Metrics at Epoch 6

Values
Metrics

Metric	Value
Training Loss	-0.0423
Validation Loss	1.3381
KL Divergence	0.5288
Correlation Coefficient	0.7474
Similarity	0.6360
Normalized Scanpath Saliency	1.9149
AUC	0.8914

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From Image Saliency to Video Saliency

Model Set Up

Set model to evaluation mode and initialize for frame processing

Video Frame Extraction

Extracted video frames at 0.5-second intervals using OpenCV
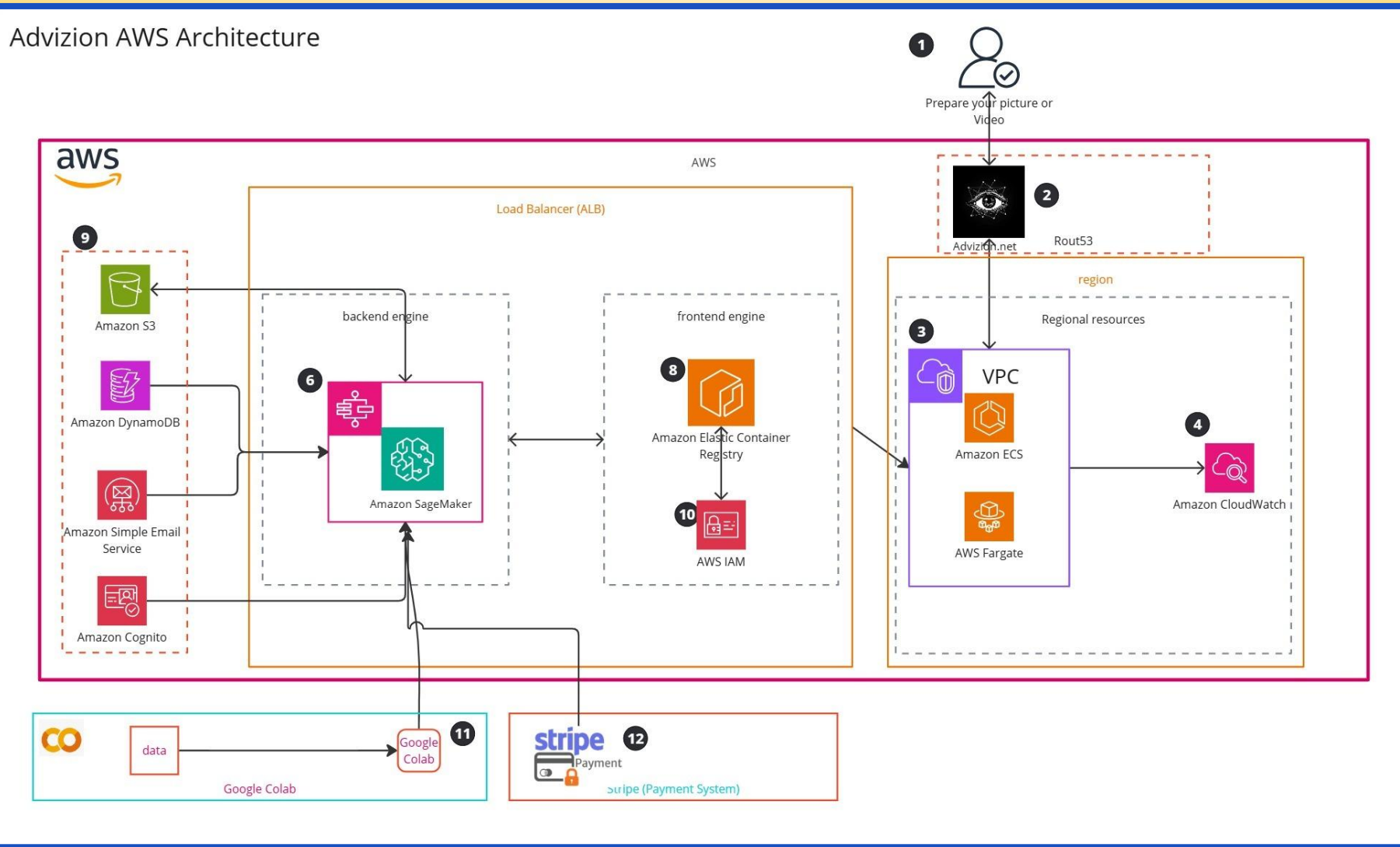
Preprocessed frames

Saliency Map Generation & Application
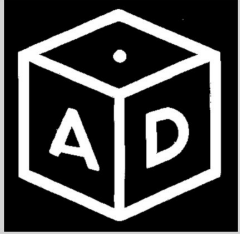
Overlayed saliency maps onto frames

Video Reconstruction with Audio

Produced final video with synchronized audio and saliency overlays

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AdVizion Product Architecture

Product Features

- User Authentication & Management

- AI Saliency Detection For Images and Videos.

- Downloadable Results

- Subscription for Premium Membership

- API Capability

- Contact Us with 24/7 customer support

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Video Demo

Input

Output

Advizion

Comparative Listing Analysis

Input

Output

Competitor

Advizion

Future features for Advizion

Coming Soon on Advizion.net:

1. **Sequence Prediction:**
   a. Powered by the cutting-edge DeepGaze3 model to enhance visual analysis

2. **Product Comparison with Multimodal Models**
   a. Compare products with benchmarks using Amazon Bedrock for tailored e-commerce solutions.

3. **Model Effectiveness Rating**
   a. Evaluates user models using proprietary performance technology.

4. **Complexity Analysis for Advertisements**
   a. Analyzes ad complexity to assess its impact on sales and effectiveness.

Acknowledgement

Research Collaborators

AI & Data Science Community

E-Commerce Professionals

UC Berkeley Instructors

Reference

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