

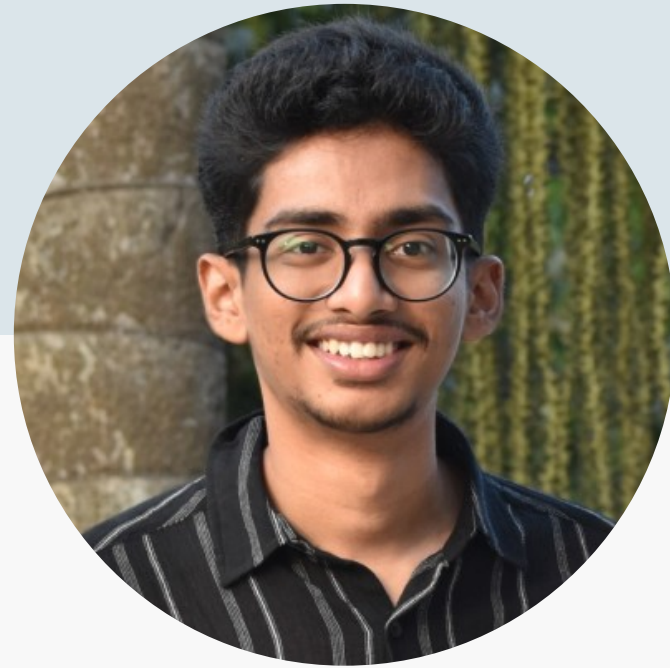


Hyper Personalized Landing Page Generator Agent

Algnition 2.0 Hackathon Challenge
by Netelixir



Team Members



Harshith YVS

Leader



Deeksha R

Member

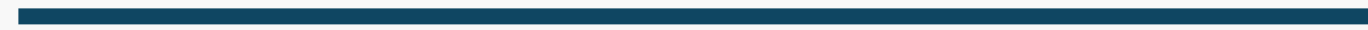


Lohith Obulapuram

Member



Problem Statement



Today, digital commerce platforms are flooded with data, but struggle to personalize experiences for users with little to no history such as first-time or anonymous visitors. Most recommendation systems rely heavily on behavioral or transactional history, and their effectiveness is limited in "cold start" scenarios where data about the user is not yet available.



Our Solution

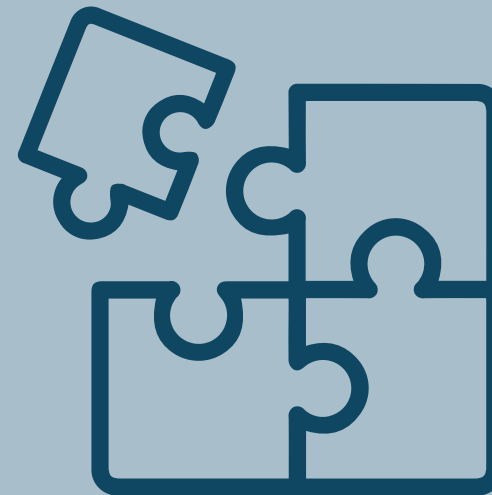
- Learns from historical patterns
- Segments users by behaviour/demographics
- Solves cold start with fallback logic
- Generates landing page modules in real time



Datasets Used



**User Activity Logs
(GA4 style)**



Transaction Records

Key attributes:

sessions, pages, device,
source, region,
demographics, revenue

Workflow



1. Data Understanding & Preprocessing
 2. User Segmentation
 3. Cold Start Strategy
 4. Personalization Logic
 5. Prototype
-



Workflow

Segmentation

- Clustering logic: **K-Means**
- Example segments: Repeat purchasers, Cart abandoners, High-value shoppers

Cold Start Solution

- Region-wise trends
- Demographic & traffic source-based fallback
- Example: New user from California → show top 'Accessories' picks

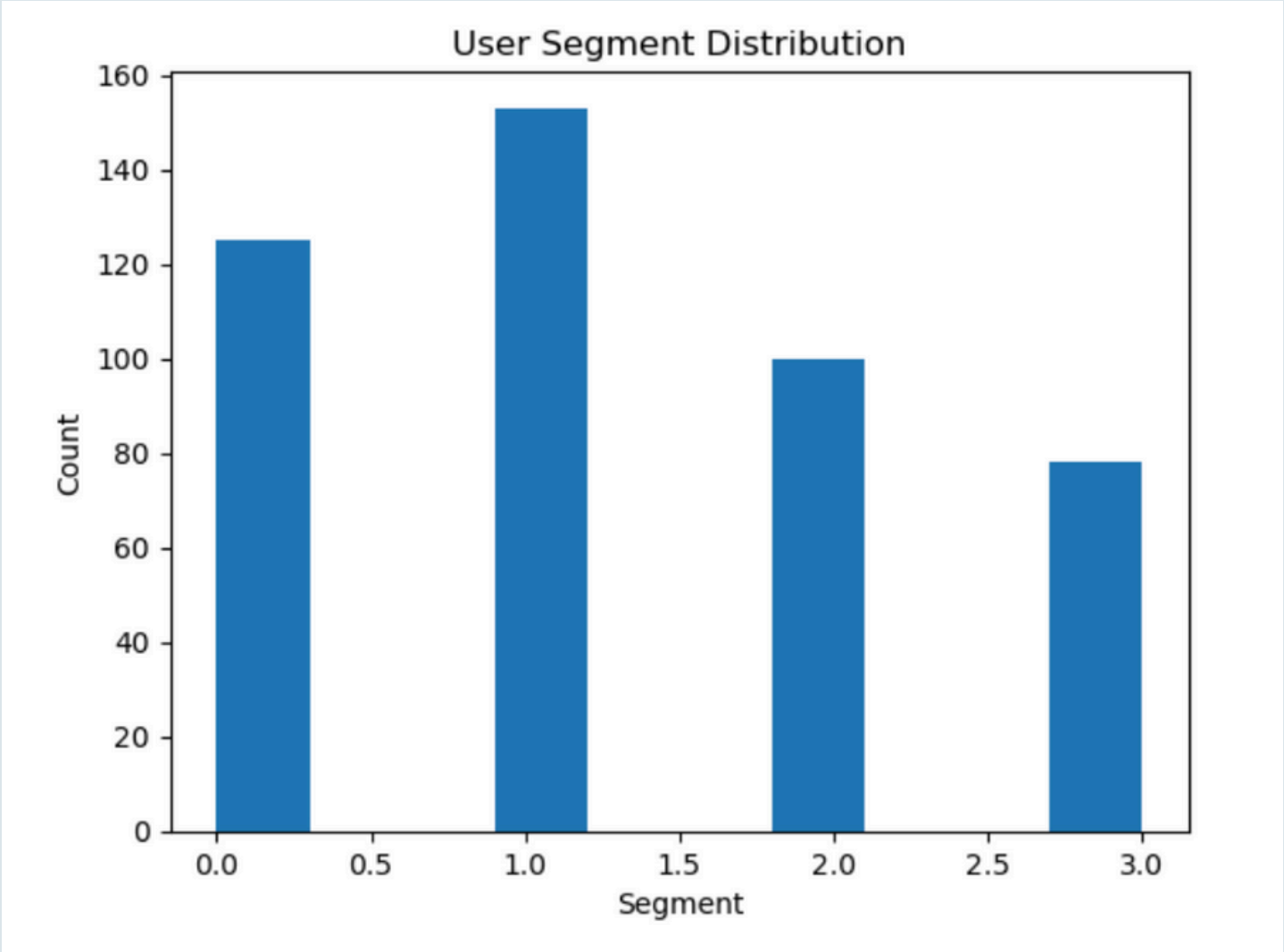
Personalized Modules

- Hero Banner, Product Carousel, CTA Block
- Visual example: If segment X → show these modules
- If new user → fallback modules



Results

GitHub Repo: <https://github.com/harshith7422/NetElixir-Hackathon>



	user_pseudo_id	session_number	event_name	category	city	region	\
0	8.073962e+05	0	1	1	223	22	
1	7.086535e+06	0	1	0	58	57	
2	1.965358e+07	0	0	0	203	7	
3	2.014393e+07	0	0	1	93	9	
4	2.147340e+07	0	0	1	43	53	

	country	source	medium	gender	Age	income_group	purchase_revenue	\
0	25	11	7	1	54.500	0	0.0	
1	25	0	0	1	49.500	0	0.0	
2	25	0	0	1	49.500	0	0.0	
3	25	11	7	1	39.875	4	0.0	
4	25	0	0	1	49.500	0	0.0	

	segment
0	3
1	0
2	3
3	1
4	0

```
{'Hero_Banner': 'Trending in None: desktop', 'Product_Carousel': 'Top desktop Picks', 'CTA': 'Start Shopping'}
{'Hero_Banner': 'Trending in California: desktop', 'Product_Carousel': 'Top desktop Picks', 'CTA': 'Start Shopping'}
```




User Simulator

Region

North America

Age Group

26-35

Device Type

Desktop

Gender

Female

Traffic Source

Organic Search

Income Level

Medium

Time of Day

Afternoon

Interests

fashion

technology

wellness

luxury

gaming

sustainability

home

family

fitness

travel



Returning Customer (has purchase history)

Generated Landing Page

Confidence: 60% Modules: 4

Discover Timeless Elegance

Curated collection of premium fashion for the modern woman

Shop Now



Thank you

