

Yoga

Situation

We can use this and built an app for self-guided yoga practice, where in user can learn from his/her mistake as well as improve his/her yoga knowledge

Task

We basically built an algorithm which can perform 2 tasks

i) If as a user you are watching a yoga video, but you don't know the name of the yoga pose he/she is performing. You can upload the video and the algorithm will detect the yoga pose and tell you.

ii) Suppose you know what yoga pose you are performing, but you want to know if you are performing them correctly according to general standards. You can upload the video and the code will quantitatively give you feedback of each joint

We can use this and built an app for self-guided yoga practice, where in user can learn from his/her mistake as well as improve his/her yoga knowledge

Approach

We were a team of 2 and a senior mentor who guided us in this project, UGP under Tushar Sandhan sir, so the we were both into the project from start to end, from reading research paper to collaboratively writing code to final presentation. There is no work demarcation.

Getting into tech.

First and fore most pose estimation – We had two options Media Pipe or Open pose.

We choose media pipe because, it was computationally cheaper and easier to implement, Our user is not moving fast and also we also don't need multi human pose estimation, so our use case is a simple one, hence media pipe

For the first part, yoga pose detection, as you could guess we had to build a deep learning model. We used CNN along with LSTM to build our Neural Network.

Why CNN, well our input is a video, which is basically images in fast succession, we had to choose CNN.

We had option of 3D – CNN, e.g. ID3, C3D, but we preferred to go with basic CNN

Four Key Steps of a CNN

1. Convolution:

- *Purpose:* Detect patterns in the input (e.g., edges, corners).
- *Process:*
 - The CNN uses a **filter/kernel** (a small matrix) that slides over the image, performing element-wise multiplication and summing up values.

- This process creates a **feature map**, highlighting important patterns in the image.
 - *Analogy:* Imagine scanning a picture with a magnifying glass to detect specific textures like stripes or dots.
2. **Pooling (Downsampling):**
- *Purpose:* Reduce the size of the feature maps to make computation efficient and focus on the most important information.
 - *Process:*
 - Apply a **pooling layer** (e.g., max-pooling or average-pooling) that takes small regions of the feature map and summarizes them (e.g., selecting the max value in max-pooling).
 - *Analogy:* Think of zooming out of an image to get a broad overview without losing key features.
3. **Flattening:**
- *Purpose:* Convert the 2D feature maps into a 1D vector to prepare it for fully connected layers.
 - *Process:*
 - Take the compressed data (after pooling) and flatten it into a long vector that can be fed into the neural network's dense layers.
 - *Analogy:* Imagine rolling up a map to turn a large object into a manageable form.
4. **Fully Connected Layer and Classification:**
- *Purpose:* Make predictions based on the learned features.
 - *Process:*
 - The fully connected layer combines features learned in earlier steps to classify the image or predict an output.
 - The output layer uses an activation function (e.g., Softmax) to assign probabilities to different classes.
 - *Analogy:* It's like connecting the dots to make a final decision — “This is a cat because it has whiskers, fur, and pointy ears.”

Why LSTM, we needed to capture long term dependencies, but not too long, hence we avoided transformer based models

We did not use TCN – Temporal Convolutional Network, as we are not focusing on real time prediction, we don't require to have high latency and speed

We have already extracted valid information in terms of joint positions hence Conv1D is used and also ConvLSTM is not used as it operates on 2D data ie. images or heatmaps

For the second part we used vector analysis

Found intermediate poses, compared use's joint angle with those intermediate poses as we moving along achieving those intermediate poses

Result

99.05percent framewise accuracy

Polling of 45 frames gives us accuracy of 99.38

Time Series

In this project we deep dived into Time Series Analysis

We built predictive model for 2 problem statements

- i) Predicting Apple Stock Price
- ii) Forecasting Beijing Air Quality

We were a group of 4, I was involved from start to end in Apple Stock Price PS and overviewed the Beijing Air Quality Sub Problem

In Apple Stock Price Prediction, we had data from April-1996 to Nov-2017. Also in all of our data ex-dividend and split ratio was zero, so no adjustment was needed there.

First and foremost we checked Stationarity using ADF test, since p-value was around 0.52, we could not reject null hypothesis, i.e. our data was non-stationary

Then we used seasonal decompose function to get our trend, seasonality and trend, assuming it was a multiplicative model. Why multiplicative, just intuition based on our observation.

STL – Seasonal-trend decomposition with LOESS assumes model to be additive hence, we could not use that

We used auto_arima to find the optimal values of p, d, q. we found rather odd result we got ARIMA (0, 1, 0)(0, 0, 0), which according to me was bit odd as it shows there is no correlation with the lags.

We got Mean Absolute Error as 0.015 i.e. 98.5% accuracy.

For our second problem statement

We had to do some data cleaning and EDA

First the date-time handling, then filling up the NaN values using interpolation. Used time-based interpolation.

We also observed that PM2.5 distribution was roughly normal, log PM2.5 dist was more normal

We also checked the stationarity, our data was stationary

Moving on to modelling

We plotted ACF, PACF, we found no correlation in both cases above two lags

Used auto_arima keeping seasonal = True

found ARIMA(1, 0, 1)(0, 0, 0)[12]

on log of data best fit was ARIMA(0, 1, 1)(0, 0, 0)[12]

also evaluated SARIMAX(1, 0, 1) on the data

Used Facebook Prophet on daily data

Found max accuracy of 97.1%

Starbucks Customer Segmentation

Situation

So the problem statement was company currently promotes products with no prior knowledge of their segments.

Task

Hence it is possible to analyse the data to find pattern in customer behaviours. This helps the company in aiming and tailoring their marketing efforts

So our project was to cluster customer base into groups, that can be investigated separately to better understand their qualities and engage accordingly

The overview and pipeline of the project can be used by any B2C company for better targeted marketing and maximize revenue.

It was a self project, where my primary aim was to explore the realm of data analysis and ML to solve a real world problem.

Approach

Getting into the details

- we had data in three parts –

- i) Portfolio – data about promos offered – one hot encoded
- ii) Profile – demographic data about members enrolled in reward program – dropped NaN rows
- iii) Transcript – records for transactions - dropped corresponding profile rows.

We had do plenty data preprocessing to get our final dataset Customer-Offer-Engagement, before modelling.

we also had to add few features such as offer_viewed, offer completed, based on offer_viewed time and transaction times.

based on rfm analysis we added few features

What is RFM analysis – It is just a framework to analysis behavior of a customer towards a product or service, where R – Recency – How recent was the last interaction

F – Frequency - How frequent are the interactions

M – Monetary – How much money is involved

In SaaS products this M coul very well be E – Engagement factor suc as bounce rate, vist duration, pages viewed.

Based on RFM score, customers could be divided according to the businesses need.

Finally the dataset had 39 features

For Modelling-

Since this is obviously a unsupervised situation, we had to choose a unsupervised algo

We chose K-Means Clustering

Why K-Means?

As we wanted hard clusters, so we did not choose GMM – Gaussian Mixture Model. we had to choose from Density Based DBSCAN and K-Means

Since we have 39 features, we choose K-means as it works better with higher dimensions.

DBSCAN can suffer from curse of dimensionality.

We will surely implemented PCA to reduce dimensions.

Lastly K-means are easier to implement, so we decided to go ahead with it

- First the data was transformed to make it gaussian, and standardized. This was imp because K-means clustering is isotropic in nature, Standardization ensures all features contribute evenly, leading to unbiased and meaningful cluster.

We have 39 features, we wanted to reduce dimensions so that, I doesn't suffer from curse of dimensionality.

We found the till Principle Component 17, explains 95% of variance

Why PCA?

Personally I find it most intuitively.

Lastly since our silhouette score was not *satisfactory enough* we *t-SNE and UMAP*.

Since our silhouette score was low, we conducted another experiments using t-SNE and GMM(Gaussian Mixture Model) – With t-SNE non distance based clustering method is better, as t-SNE neither preserves distance nor density, it just preserves nearest neighbours

Choosing hyperparameter for t-SNE is tough

The Cluster Feature Space Plot was similar to K-means, so no visible improvement made us choose K-means.

How did you find k ?

– We used WCSS (Within Cluster Sum of Squares), built graph for 2-30. And found elbow

To confirm our value of k. We calculated the silhouette score – unfortunately it was quite low – 0.11 indicating overlapping clusters or data not clusterable. But we future investigated and evaluated the clusters formed, and we found it pretty intuitive.

Also 6 seemed valid for business perspective

Any other method to find k ?

- I know a concept of prediction strength; where in, we divide out dataset into 2 parts (training and

testing) as we do in supervised learning, next we create clusters for both training set, and testing set
We build a co-membership matrix for all points on test data $D[A, Ste]$;

A - clustering of training set

S - test set

where $D[A, Ste](i, i') = 1$ if x_i and $x_{i'}$ belongs to same cluster, else $= 0$;

Intuitively if k is reasonable then, then 2 examples that belong to same cluster according to A, would be in same cluster in clusterings created by test set.

More formally, formula for prediction strength. Largest k such that $ps(k) > 0.8$ is our k

There a another method – **gap statistic** method

After that we thoroughly analysed the 6 clusters, using on violin plot of different features on final dataset, and we found the clusters quite intuitive and made following inferences of clusters.

With the help of the plot above and previously collected data, summary of each cluster is as follows:

****Cluster** `0`**: This cluster represents good business value to the company. Their income is fairly high, they are senior members in the program, and they respond fairly quick to offers.

****Cluster** `1`**: This cluster seems to be formed of low-income, low-spenders, and recent-members who does not seem to be tempted by any offer type

****Cluster** `2`**: This cluster of customers respond very well to all offers type. In a good way too, with an average spend of $\backslash\$8.92$ and $\backslash\$17.20$ in non-promo and promo periods respectively exhibiting an increase in RFM score of 81% between the two periods

****Cluster** `3`**: This cluster of customers arguably represents the best business value for the company non-promo periods. They are the highest spenders in non-promo periods with an average spend of $\backslash\$16.67$ miles ahead of most clusters.

****Cluster** `4`**: This cluster of customer seems to be only active during promo periods. Their average spend in non-promo is low $\backslash\$5.66$ but that jumps to highest average spend among clusters in promo periods $\backslash\$21.23$ exhibiting an increase in RFM score of 226% between the two periods.

****Cluster** `5`**: This cluster seems to be formed of customers who are completely inactive during non-promo periods with average spend of lowest $\backslash\$1.23$. That increase to, still lowest, $\backslash\$6.48$ average spend in promo periods.

Intro to ML

We have three problem statement

Melbot – game organizer

Melbo – Participant

We have a dictionary of N words

Game is simple – Melbot selects a word, Melbo has to guess that words.

First of all Melbot gives a string of length x, denoting length of the word

Here is how Melbo can guess

Melbo asks queries, as in he would guess a random word or you can index i where i is from [0, N-1]

if i is invalid i.e. if beyond N, then it would mean melbo wants to stop the game

if i is valid, the query number is less than 15, i.e. only 15 queries are allowed.

Melbot will check and return a string where only those positions with appropriate letters are filled, where the guessed word's letter matched with original word's letter, at same position.

After 15 queries, game ends

What was our task

Our task was to formulate decisions based on which query would be asked, in other terms splitting criterion

We had to create DT from scratch, without scikit learn.

We choose to greedily split the tree, based on max info gain, i.e. reduction in entropy. Although it is suboptimal, but we found it to enough for our problem statement.

So we also did not think of other criterions like Gini Index or Conducting χ^2 test, as that would be cumbersome

The query which would give us maximum number of node, would give us max info gain, so we decided that, the word in the node which has most number of common letters with other words in the same node, would give us max number of split. (Though it's possible that some other word for that node gives us max split, but this method provides us pretty balanced tree, and would hold for most of the nodes in the tree.)

So we build a matrix for each node ($26 * \text{\#words}$), created the matrix, chose the word with max score.

A node was made leaf, if the number of words it had was 1, or depth ≥ 15 ;

We did not apply any hyper parameter or pruning strategy, again we did not find the need.

Second PS

Based on PUFs – Physical Unclonable Function

These are hardware security primitive that leverages the inherent physical variations in manufacturing processes to generate a unique response for a given input, known as a **challenge**.

- **Challenge (CC):** Input to the PUF.
- **Response (RR):** Output produced by the PUF, dependent on CC.

Our job was to build a linear algo to crack a advance XORRO

What are advance XORRO -

Based on Ring Oscillator

Explain Basic Ring Oscillator i.e. with Not gate

Explain its Frequency.

Explain Ring Oscillator could be built with XOR gate i.e. XORRO if one of the bit is pre set i.e. config bits

Explain Simple XORRO, which would have the challenge as an R bit string that is fed into both XORROs as their config bits

Explain Advance XORRO,

2S XORROs and extends the challenge vector to have 2S more bits.

For example, if the $S = 3$ (i.e. there are $2^3 = 8$ XORROs) and the 2S bits are 110010 then the XORRO number 6 will get selected as the first XORRO (as $110 \equiv 6$) and XORRO number 2 will get selected as the second XORRO (as $010 \equiv 2$). Then simple XORRO the challenge now has $R + 2S$ bits.

Our job was to give a detailed mathematical derivation (as given in the lecture slides), show how a simple XORRO PUF can be broken by a single linear model.

Write code to solve this problem by learning the M linear models w_1, \dots, w_M .

We used ensemble model of SVC and LogisticRegression, used **soft voting** to ensemble, also explored various hyperparameters

hinge loss, squared hinge loss

tol - (**tolerance**) hyperparameter is a **stopping criterion** used in many machine learning models.

When for example in SGD, If the improvement falls below this threshold, the solver assumes **convergence** and stops early.

Smaller tol \rightarrow More precise solution but slower training.

Larger tol \rightarrow Faster convergence but less precise.

hyperparameter C

penalty parameter ie. L1 – lasso and L2 – Ridge Regression

Elastic Net regularization – L1 and L2 combined

Got max accuracy of 99.33%

Third PS

Chat with PDF

So, this project is technically simple, and I wanted to explore the realm of LLMs

So, suppose we have many pdfs, and we want to few questions, whose answers are from pdf, but not directly, surely we can merge pdf and ctrl-f our keywords and formulate answer ourself.

But a better way, would be I upload pdf into a chat-bot and then ask questions, the chat-bot will give suitable answers.

It was a self project.

Here's what happens at the back-end.

We upload the pdfs

the first step would be,

first we concatenates text from all pages to a single string.

then we use '*CharacterTextSplitter*' from '*Langchain*' to spilt text into smaller chunks. Its important to manage context window of LLM as it process limited text at a time.

Next I used '*HuggingFaceInstructEmbeddings*' to generate embedding of each text.

Why HuggingFace?

Honestly, biggest reason is it was free, and it uses semantic based embeddings, so went with this.

What are embeddings? How does that work?

HuggingFaceInstructEmbeddings use pretrained models like hkunlp/instructor-large, which have been fine-tuned using **instruction-based learning**.

i.e. You provide both the text to embed and an instruction describing the task (e.g., "Embed this text for semantic similarity").

in hugging face

Encoding:

- The input is **tokenized** and passed through a neural network. **Tokenization** is the process of breaking down text into smaller units called **tokens**, which can be words, subwords, or even characters. Tokenization is a critical preprocessing step in natural language processing (NLP)
- The network produces an embedding that aligns with the given instruction.

Output:

- A **dense vector** representing the text is generated, tailored to the instruction. In a dense vector, most or all of the elements have meaningful, non-zero values. Keeping the dimensionality in check. Each dimension carries some specific semantic meaning.

Then we create FAISS vector store.

What is FAISS?

FAISS (**Facebook AI Similarity Search**) is a library developed by Meta (formerly Facebook) that is designed *for efficient similarity search and clustering of high dim dense vectors*. It is widely used for tasks like semantic search, recommendation systems, and nearest-neighbor search in high-dimensional vector spaces.

Then initialize our main LLM model, at first I tried

LLM (flan-t5-xxl) from HuggingFaceHub - specifying a temperature = 0 and a max_length of 512 tokens for responses.

why flan-t5-xxl? - main reason, open sources, free, accessible through huggingfacehub

A low temperature (close to 0) makes the model's responses deterministic, reducing randomness and ensuring consistent outputs for the same input.

more temp, more creativity

then tried OpenAI GPT model, used friends token

Memory – used *ConversationalBufferMemory* to store conversational history
This allows LLM to maintain context across multiple turns in a conversation

ConversationalRetrievalChain – Combines LLM, vector store and Memory . this chain handles entire info of retrieving relevant info from pdfs and generating response.

How exactly can we use these LLM models available online?

- **Answer:** Here's a simple framework for understanding:
 1. **Choose the Model:** Decide on an appropriate LLM based on your task (e.g., conversational AI, summarization).
 2. **Access the Model:** Many platforms, like OpenAI, HuggingFace, or Google, provide hosted APIs for LLMs. You can access them via API keys or libraries like HuggingFaceHub.
 3. **Preprocessing:** Clean and structure your input data to align with the model's capabilities.

4. **Integration:** Integrate the LLM into your application using APIs or SDKs. Define parameters like temperature for creativity and token limits.
5. **Testing and Iteration:** Test outputs, fine-tune parameters, and add custom handling for edge cases.
6. **Optimization:** Use techniques like embedding and retrieval for large datasets to enhance performance and reduce costs.
7. **Deployment:** Deploy the application, ensuring proper error handling and scalability.

Why Streamlit?

Streamlit

1. Ease of Use:

- Developers can use Python scripts without needing front-end expertise.
- Common UI elements like sliders, buttons, text inputs, and file uploaders are provided as simple functions.

Brand Repositioning Strategy –

So our problem statement was to redefine boAt's brand positioning. The project aimed to strengthen boAt's appeal in emerging markets while addressing evolving consumer preferences.

Our goal was to identify opportunities that aligned boAt's strengths with unmet consumer needs and potential market gaps.

Approach and Strategy

We wanted to understand the current eco-system of boat, and find hidden dimensions where we can jump on to

In our comprehensive analysis of boAt's value chain, we identified **five pivotal areas** to enhance competitiveness and expand market share: **PECSS**

1. Product Innovation and Diversification:

- **Current Focus:** boAt offers a range of audio products, including earphones, headphones, speakers, and smartwatches.
- **Opportunity:** Expanding into related categories, such as musical instruments, can tap into adjacent markets and cater to a broader consumer base.

2. Enhanced Marketing and Brand Positioning:

- **Current Strategy:** boAt utilizes influencer marketing and brand tie-ups with sports teams and public events to promote its products.
 - **Opportunity:** Developing strategic video advertisements and leveraging digital platforms can elevate brand perception and reach a wider audience.
3. **Customer Service Excellence:**
- **Current Approach:** boAt offers customer service primarily during the warranty period.
 - **Opportunity:** Implementing after-warranty services and enhancing customer support can improve customer satisfaction and loyalty.
4. **Supply Chain Optimization:**
- **Current Practice:** boAt primarily outsources manufacturing to Chinese companies, focusing on design and branding.
 - **Opportunity:** Establishing manufacturing partnerships within India can reduce dependency on imports, mitigate supply chain disruptions, and align with the 'Make in India' initiative.
5. **Sustainability and Corporate Social Responsibility (CSR):**
- **Current Status:** Limited focus on sustainability initiatives.
 - **Opportunity:** Integrating eco-friendly practices and CSR activities can enhance brand image and appeal to environmentally conscious consumers.

Strategic Frameworks Applied:

- **4P Framework:** We analyzed boAt's Product, Price, Place, and Promotion strategies to identify strengths and improvement areas.
- **PESTEL Analysis:** This helped us understand macro-environmental factors influencing the brand, such as economic trends and consumer preferences. [PESTLE Analysis of BoAt Company | Free PESTEL Analysis](#)

Strengths:

- Affordable pricing
- Strong brand recognition
- Diverse product portfolio
- Effective after-sales service

Weaknesses:

- Limited international presence
- Dependence on external suppliers

- Risk of brand dilution
- Limited control over customer relationships

Opportunities:

- International market expansion
- Growth in wearable technology

Threats:

- Intense competition
- Prevalence of counterfeit products
- Economic downturns

Brand repositioning

- Experience and try centers
- Cross-promotion
- #myboAtCut –trimmer- #findyourownboAtCut
- Recyclable premium materials

Forage

Internship

i) Medantrik

Well on our first day of internship, we were not told about any algorithm, we were just told to some research work. But eventually we got to know that we are building a portable lung health diagnosis device, the functions are exactly similar to spirometry test in hospital and much more. But our working principle is completely different.

So, basically there is a machine out there in hospital which performs lung test, and we building a portable version of it, but through a different route.

First, allow me to explain the test, it will premise for my internship work. I will try to go through it quickly. Its very simple to understand

So basically it's a lung health diagnosis device, so intuitively obviously we are interested in lung capacity and how well air flows through our lungs, basically flow rate.

What device does it, we have pipe, a opening, were in you have to blow air through your mouth in a specific manner which the doc guides you, then the machine does its job and creates a report with 15+ standardized parameters and graphs, which the doctor sees and does further treatment.

The difference between our device and the one at hospital is.

The way the device out there calculates the flow is through pressure, i.e. it calculates the pressure and then continues.

What our device does is, our device has a small fan, very small, blade length of 1cm, which rotates when we blow air. We data point is rpm. We have information of a person blowing in terms of rpm.

So, now what our algorithm does is, you can think of it as we have rpm as the input data, it goes through our algorithm, and then produces the same 19 standardized parameters with standardized graph.

Now, is this idea unique to medantrik? No, we have 1-2 more companies, but then why built the algorithm, is it not open source. No.

That's why we had to go through those 2months, were in we had to solved numerous mini-problems.

Why portable?

There are many reasons.

First, the cost effectiveness. One test at hospital – 2K/test

infinite test at initial acquisition cost of 5k.

There is no need to emphasize the issue of pollution in India, and why this product will eventually, if our company, will eventually be in every household.

Flow-

- i) Research paper
- ii) Brainstorming on Ideas with CTO
- iii) Important and difficult issue – Calibration

Many test, finally, used wind tunnel to calibrate

- iv) At the same time writing code
- v) A small problem statement – patient questionnaire
- vi) Another issue - Ideal data

Many research paper, extracted data from an online calculator, used random forest to train. Not sufficient, so a prototype was built, interface was built, deployed to hospital, data collected, improved

- vii) Developed a system to detect common errors during spirometry tests, such as:

Coughing: Identified as sudden spikes in data.

Slow starts: Detected when exhaling begins too gradually.

Hesitations: Gaps in airflow data.

There are many issues, and much to do, when we left.

Accuracy is what we predicting, what the machine is predicting.

Minimizing Absolute summation of difference

We starting off with learning about lung health diagnosis, specifically spirometry test. And everything about it. Read many research papers and journals to identify key diagnostic criteria for asthma and COPD.

global standards like

GOLD (Global Initiative for Chronic Obstructive Lung Disease):

- **Purpose:** To provide evidence-based strategies for the diagnosis, management, and prevention of COPD.

GINA (Global Initiative for Asthma):

- **Purpose:** To reduce the global burden of asthma through standardized care.

Focused on aligning the device's output with clinical requirements.

Patient Classification Questionnaire

Created a questionnaire to classify patients as Healthy, COPD, or Asthmatic.

Incorporated widely used tests like CAT (COPD symptoms) and RSQ (respiratory symptoms).

Assigned scores to answers and used the Naive Bayes algorithm to classify patients with 96% accuracy.

Automated the classification process for faster and more reliable results.

Device Calibration

Calibrated the spirometry device using measurements from the National Wind Tunnel Facility at IIT Kanpur.

Derived a mathematical formula linking flow rate to device rotations, ensuring accurate airflow measurements.

Validated the calibration with known flow rates for precision.

Predictive Model for Lung Parameters

Noticed the lack of India-specific formulas for lung health benchmarks.

Combined synthetic and real patient data, using the GLI calculator to predict ideal lung function values.

Trained a Random Forest model with 99.23% accuracy to predict parameters like FEV1 and FVC, helping to identify abnormalities.

Error Detection Algorithm

Developed a system to detect common errors during spirometry tests, such as:

Coughing: Identified as sudden spikes in data.

Slow starts: Detected when exhaling begins too gradually.

Hesitations: Gaps in airflow data.

ii) Foruppo

First of what is foruppo?

Foruppo is an autonomous startup ecosystem and collaborative workspace where young and passionate entrepreneurs co-create and co-own innovative startups.

They have three startups and initiated five entrepreneurial projects. Notable ventures include:

- **Ukisho:** A meritocratic social learning community built by cross-discipline intellectuals to study life.
- **Sheefro:** India's first digital intrapreneurship initiative aimed at instilling innovation in large-scale conventional businesses.
- **Startup Party:** An event where founders, aspiring entrepreneurs, startup enthusiasts, and investors play offline startup games together to connect and collaborate while having fun.

They have an internship programme which starts off with developing different innovative mini-SaaS products which are launched on Product Hunt if it's worth it.

Luckily, I was selected to lead one of the groups (a team of 8), where in I had the first experience of leading an unknown group of people from different parts of India. I had experience of building something before, our dance production, although I could find many things, this was different in a fun manner, I learnt a lot in those 2 weeks. We had numerous meets, starting from brainstorming a tangible idea to concretizing it, splitting roles, iterating, fixing and dodging the barriers as we went along.

I was lucky enough to be part of a wonderful team, I was as much part of the team as others, in the sense that during meetings, I just tried to act as a regulator and not boss, but sometimes it was necessary to make the final call.

Situation

I led a team of 8 for a two-week project to create **Urrban Tailor**, a fashion recommendation website. The goal was to help users find outfit inspiration using a **five-dimensional filtering system** based on weather, occasion, and other preferences.

Task

As the product lead, I was responsible for defining the vision, coordinating efforts, and delivering an MVP within a tight timeline.

Action

- **User Research:** Conducted surveys to validate the need for personalized outfit suggestions, highlighting the demand for ease and inspiration.
- **MVP Development:** Defined key features using **MoSCoW prioritization**, focusing on the filter system and intuitive interface while deferring advanced features.
- **Data Preparation:** Our team manually labeled and curated the dataset, ensuring relevance for the recommendations.
- **Development:** Built the website on **WordPress**, working on theme customization and integrating functionality with another teammate.
- **Testing and Iteration:** Conducted user testing to refine navigation and filter accuracy, improving the overall experience.

- **Collaboration Tools:** Used tools like Trello and daily stand-ups to ensure alignment and accountability.

Result

We delivered a functional MVP that was well-received for its personalization and simplicity. This experience strengthened my skills in **user research**, **MVP delivery**, and **cross-functional team leadership**, providing hands-on insight into the product development lifecycle.

FUNDAMENTAL PRINCIPLES OF OPTIMUS MAXIMUS :

1. ACTION FIRST APPROACH
2. AVOID ENGAGING IN MONOTONOUS LEADERSHIP ROLE
3. GIVE PEOPLE AUTONOMY TO DO THEIR JOBS
4. DO REGULAR SYNC-UPS AND REMOVE BLOCKERS QUICKLY
5. AVOID BUILDING THE PYRAMID TEAM HIERARCHY
6. BEST METHOD FOR BUILDING A PROTOTYPES

Next, I was fortunate to be part of one of their flagship projects.

Wizoona - 1st community-led holistic education startup to empower young adults with comprehensive life education.

Wizoona, it's a platform, aimed at fixing flaws in the Indian education system. Wizoona focuses on mental well-being, upskilling, and empowering youth through practical life skills.

Equips users with the tools to care for their mental well-being and essential life skills, such as **sex education**, **managing accounts**, **investing**, and **collaboration-building**.

The platform is community-driven, offering sub-communities called tribes like

Meraki (for mental wellness) and

Zenshin (for professional growth). It's designed to improve critical and creative thinking, helping young people to live life in a better way.

Zenshin is all about learning

- Professional Mastery, Financial Literacy and Investment, Legal and Life Skills, Sex Education, Self-dependent Careers, etc
- Product Management, Project Management, Marketing Management, UI/UX Designer, GenAI, Management Consulting, Data Science, etc
- Creative Thinking & Problem Solving, Leadership, Written & Verbal Communication, Emotional Intelligence, Research, etc

Meraki is all about learning

- Emotional Wellness, Mental Health Literacy, Self-awareness & Growth, Community and Support Systems, Resilience and Coping Skills, etc.
- Emotional Intelligence, Mindfulness and Meditation, Self-compassion, Coping Mechanisms, etc
- Peer Support, Stress Management, Work-Life & Work-Study Balance, etc

they have built a proper filtering mechanism, where the eco-system is such that, which starts with sessions and product building. Where great ideas can pop-up, genuine members get filtered up, they collaborate and eventually some ideas get concretized with current team, which goes into full blown production.

Self Help Book.
Daily Feelings Survey.

Value Proposition

We had a meeting with founder, where in the whole conversation , was find the right words one liner definition of Wizoona

☑ Wizoona is not just a platform; it's a movement where passion meets collaboration.

☑ Users can join or create **Tribes**—interest-based groups fostering deep exploration, creativity, and skill-building.

Had many collaborative brainstorming sessions.

Idea is you will have this groups based on interest.

And there will be some hierarchy, few would be part of wizoona, excelling in that domain.

Rest others would collaborate, have fun meetings, sessions, discussion etc.

Customer Segmentation

user aquisition

Primarily we planned to focus on college going students.

College Students (18–24 years):

- Ideal demographic for cultivating active, vibrant Tribes.
- Students who seek a mix of skill-building, career guidance, and interest-based learning in an engaging ecosystem.

GTM Strategy.

We had many discussion on this

Obviously we have our accounts in all fronts.

We decided to grow through WhatsApp, tho its old school, but it has its merits

WhatsApp-Centric Growth (The Old School Advantage):

- **Broadcast Networks:** Build interest-specific WhatsApp groups to create early Tribes.
- Share interactive polls, quizzes, and event links to generate buzz.
- Enable Tribe leaders to grow micro-communities on WhatsApp, creating a sense of exclusivity.

3. Ambassador Program:

- Appoint college student ambassadors to promote Wizoona on their campuses.

- Ambassadors can host **offline meet-ups** to strengthen community ties and onboard new members.

4. Gamification:

- Tribe performance metrics: e.g., “Most active Tribe,” “Top Collaborator,” or “Event of the Month.”
- Give rewards like badges, exclusive resources, or even scholarships for excelling Tribes or individuals.

6. Leader Showcases:

If your profile is very good, and you are part of the community we have a section called wizoona spotlight, where in we showcase your profile.

What’s the incentive here for the user

well for him its like a online resume, a online presense which he/she can share with necessary people to showcase his talent

- Spotlight Wizoona Leaders in specific domains through webinars or Tribe meet-ups.
- Turn them into micro-influencers for Wizoona’s vision.

Wizoona Originals:

- Host flagship events like “Wizoona Week”—a grand online festival showcasing Tribes, challenges, and collaborative learning.

How are they capitalizing?