Hong Bang International University

HIUDATA

HIUDATA Chatbot

Dataset 1: Adidas and Nike Products

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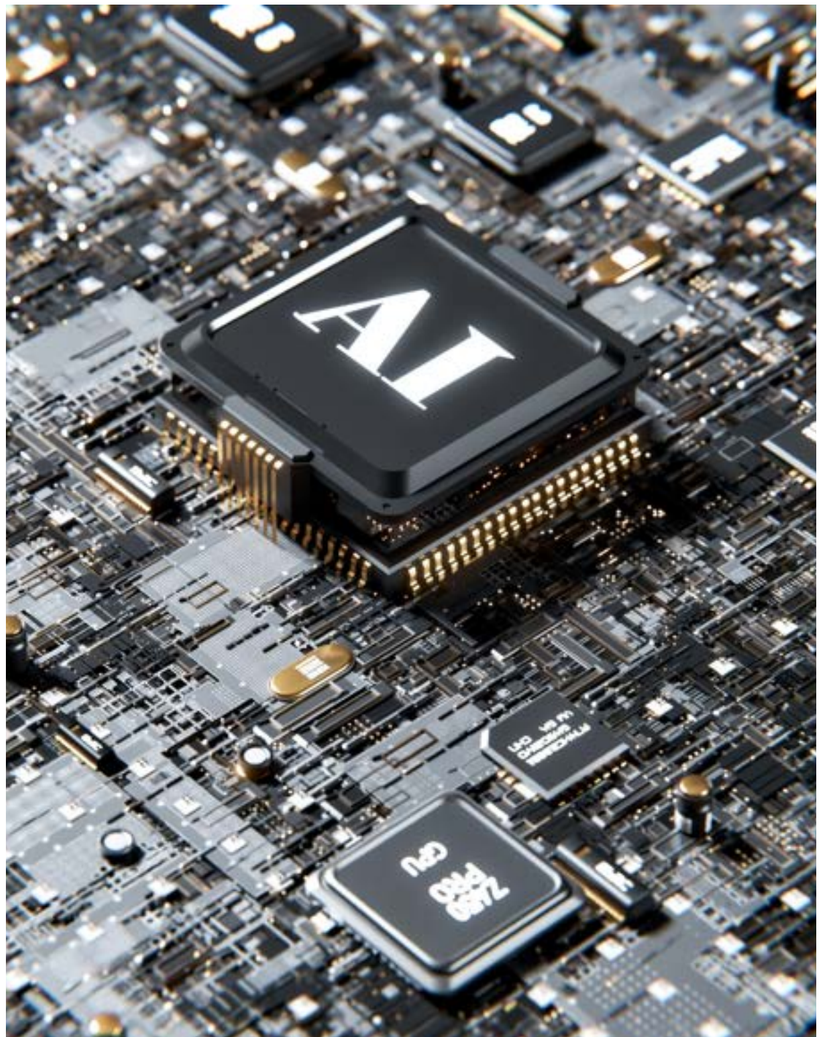
1. Introduction



Retail Challenge:

Customers struggle to find products aligned with their preferences in traditional online shopping experiences.

Proposed Solution:

- MVP Chatbot leveraging user chatting behavior for personalized product suggestions.
- Enhances customer experience by tailoring recommendations to individual needs.

2. Problems

Traditional online shopping falls short in personalization, leaving customers with a generic experience that doesn't meet their individual needs. This deficiency leads to challenges for users in discovering products tailored to their unique preferences.

Inefficiencies

- Lack efficiency in catering to individual preferences.
- Users face frustration due to time-consuming searches.

Decreased User Satisfaction

- Online shopping interfaces fail to meet user expectations, leading to frustration, dissatisfaction, and potential lost sales.

Competitor: Nike Style Bot

1. Advanced features for releases.
2. Fast checkout processes.
3. Real-time restock notifications.
4. Higher success rates in limited releases.
5. Seamless messaging platform integration.
6. Robust anti-detection mechanisms.

3. Solution Overview

The AI-based solution in the MVP aims to provide an optimal user experience in managing tasks and personalization. The integration of AI is done to leverage AI techniques and models to improve performance and create a remarkable product.

Machine Learning for User Need Prediction

Utilizing algorithms like Random Forest or Gradient Boosting to predict user task and note preferences.

Natural Language Processing (NLP)

- NLP Model: Use transformer models such as BERT or GPT
- Technique: Word Embedding

Machine Learning for Feature Recommendation

- Collaborative filtering algorithms.
- Matrix factorization techniques.

3. Solution Overview

Innovations and benefits

1. Highly Personalized and Customizable

- Personalization: Based on personal data, the solution automatically identifies the appropriate task and note objects for the user.
- Customization: Allows users to customize and prioritize features based on feedback and personal preferences.

2. Enhanced Prediction and Feedback Capabilities

- Flexible prediction: Machine learning models make the ability to predict user needs more flexible over time and changing trends.
- Intelligent feedback: Provides intelligent feedback on why a task is recommended, helping users better understand the benefits of the feature.

3. Solution Overview

Innovations and benefits

3. High Performance and Time Saving

- Task automation: Use AI to automate tasks such as classifying, sorting, and labeling tasks, reducing the user's time and effort.
- Efficient information search: Leverage NLP models to search and organize information based on the content of notes and descriptions.

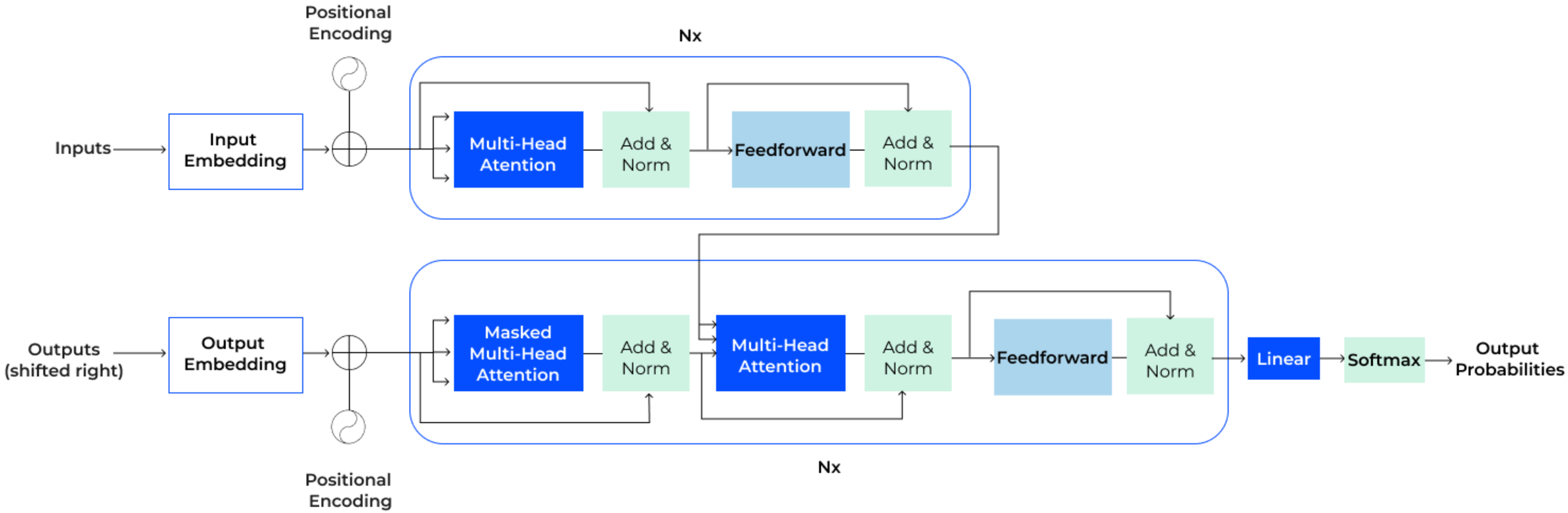
4. Linked and Connected Integration

- Data linking: Combine information from multiple sources through API techniques to create a linked and multi-source platform.
- Flexible interaction: Provides intelligent interaction capabilities between features to create a seamless user experience.

5. Flexibility and Scalability

- Flexibility: Based on a modular infrastructure, the solution can be flexibly extended to integrate new features and quickly respond to changes in user needs.
- Feature expansion: Provides interfaces and APIs for the community to add to extended features.

4. Methodologies



4. Methodologies

- Transformer Architecture
- Self-Attention Mechanism
- Positional Encodings
- Parameter Layers
- Inference Mechanism
- Multi-Modal Language Modelling
- Feedforward Neural Networks
- Vocabulary and Tokenization
- Pre-trained Parameters
- Fine-Tuning Mechanism

5. Core Functionalities

The initial step involves cleaning and analyzing Dataset 1. Subsequently, the chatbot will undergo training using this refined dataset. The chatbot's product selection process will be predominantly based on parsing and understanding product names and descriptions to recommend the most fitting options for users.

User Preference

Considering user preferences by recommending products with high average ratings and reviews, aiming to enhance customer satisfaction.

Product Classification

The addition of the Category column to the dataset will enhance the chatbot's precision in product suggestions.

Recommend by Rating & Review

The chatbot's suggestions will be influenced by avg_rating and reviews, prioritizing products with higher ratings and increased customer engagement.

Cross-Selling Recommendations

Not only suggests similar products but also cross-sells related items. For example, buying shoes prompts recommendations for high-rated socks, and purchasing a shirt may lead to suggestions for pants or a jacket.

6. Performance Metrics

Market Size/Share Ratio ***80-90%***

Retention Rate ***> 90%***

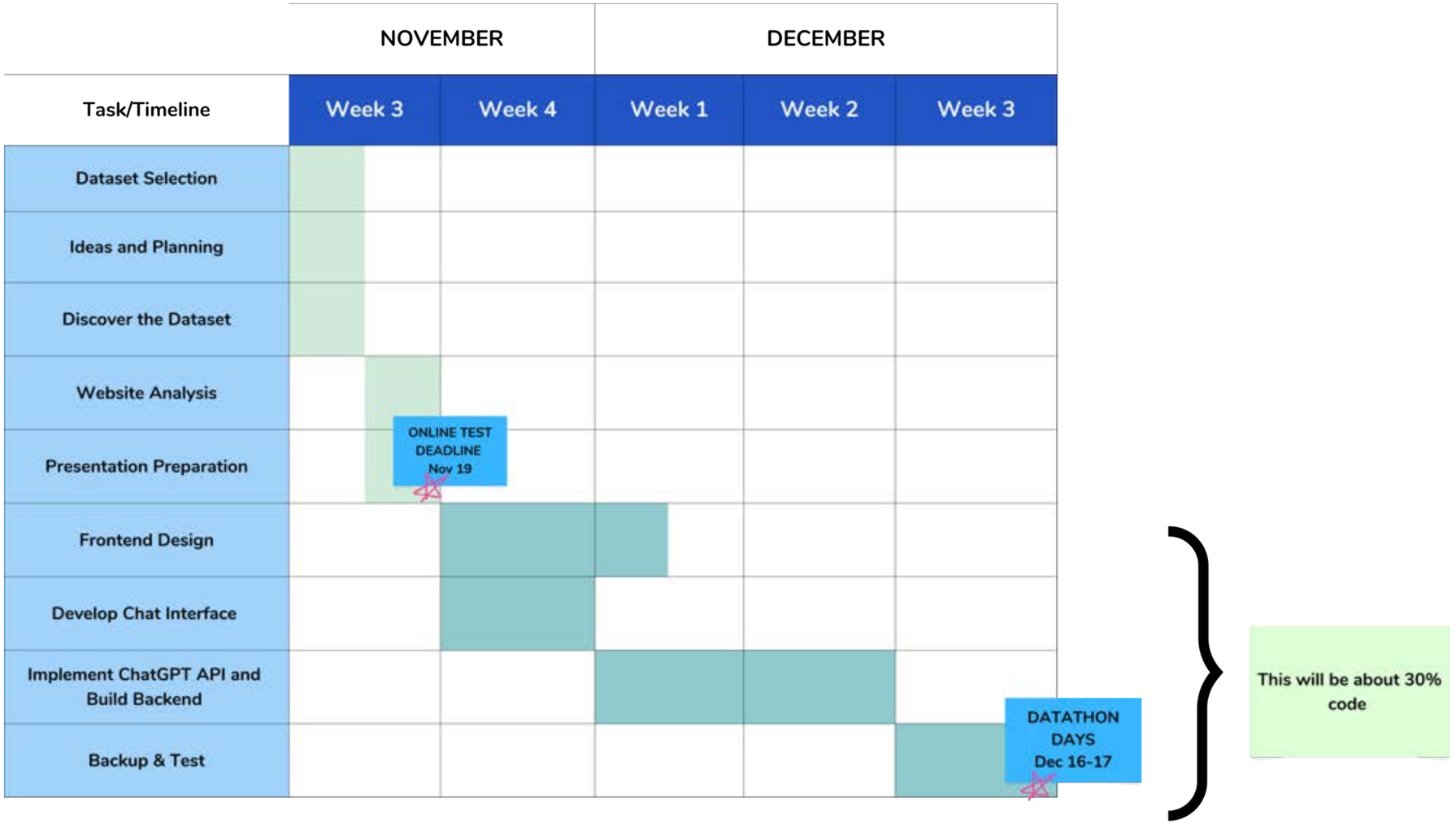
Engagement Rate ***~90%***

Feedback Rate ***> 70%***

Page Load Time ***< 1 second***

Error Rate ***< 3%***

7. Timeline & Roadmap



8. User Interface

Running shoes

Style and support in every stride.

$39

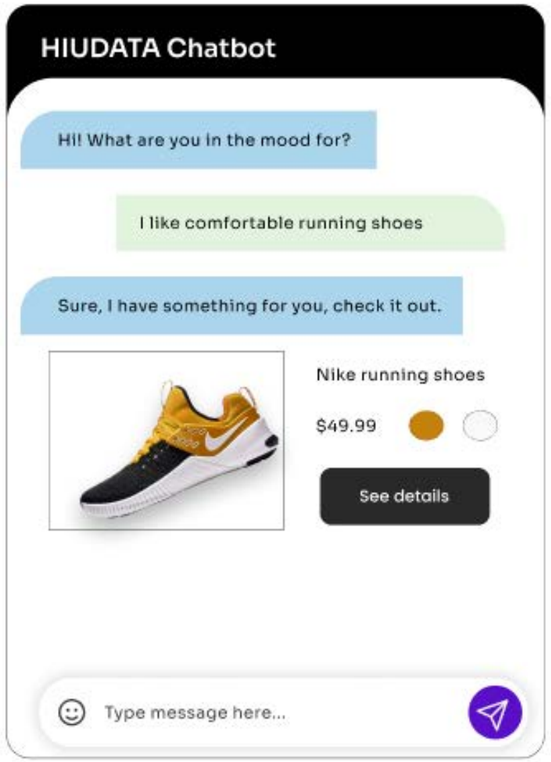
Add

Running shoes

Style and support in every stride.

$39

Add



How do users interact?

The website interface will feature a chatbot box that appears when users click on it. Within the chat dialog, there will be a field for users to input search queries for products. The AI will then suggest a selection of relevant products based on the user's input.

9. Limitation & Feature Enhancements

Improving Interface

- Aesthetic design for a pleasing user experience.
- Optimizing chatbot interaction for a natural flow.
- Integrating personalization features.

Enhancing Data Quality

- Regular data cleaning for accurate recommendations.
- Incorporating user feedback for adaptive models.
- Prioritizing data security with robust measures.

Leveraging Advanced Chatbot

- Integrating ChatGPT 4.0 for advanced language processing.
- Improving contextual awareness for coherent responses.

Optimizing for Business

- Enabling sales support within the chatbot.
- Implementing analytics tools for continuous improvement.
- Extending reach through cross-platform integration.

Limitations

- Customization constraints with ChatGPT 4.0.
- Addressing challenges in areas with limited internet access.
- Maintaining data quality for accurate recommendations.
- Balancing personalized suggestions with user privacy.
- Addressing usability and accessibility challenges.
- Mitigating security risks through encryption and compliance.
- Preparing for server load challenges with increased user traffic.

10. Conclusion

HIUDATA Chatbot

- Analyzing personal data to identify relevant tasks and notes.
- Flexibly predicting user needs.
- Providing intelligent feedback.
- Automating repetitive tasks.
- Offering intelligent interactive capabilities.
- Easy scalability and adaptability.

MVP Value Proposition

- Enhancing personalization.
- Improving task automation.
- Increasing customization capabilities.

Impact and Potential Benefits

- Providing predictive task recommendations.
- Offering intelligent feedback.
- Automating repetitive tasks.
- Creating a comprehensive and connected data ecosystem.
- Ensuring a smooth and visual user experience.
- Allowing seamless expansion and adaptation to changing user needs.

Thank You

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