LITERATURE SURVEY

SMART FASHION RECOMMENDER

by

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SURVEY PAPERS:

Survey Paper 1

- **Author Name:** Maria D. Illescas-Manzano , Noe Vicente Lopez
- **Title:** Implementation of Chatbot in Online Commerce, and Open Innovation
- **Publication Website:** Journal of Open Innovation
- **Published Date:** May 2021

Literature Review:

Chatbots are conversation engines that interact in real time with customers, machine operators, maintenance workers, etc. In addition, they can offer advanced dialogue and technology conversations using Machine Learning (ML) and Artificial Intelligence (AI) enhancements

Different types of chatbot:

Based on rules.

Smart. This chatbot is based on artificial intelligence, by which it collects information through conversations with customers.

Hybrid. This is a mixture of the two previous types, combining rules and artificial intelligence.

Objectives:

Analyze the usability of the platform to generate leads (implementation, use, data processing, and effectiveness in established conversations).

Design and implement a chatbot for the e-commerce of a company.

Evaluate the results of implementation.

Uses:

In the field of health, due to the coronavirus disease 2019 (COVID-19) situation, in Germany a chatbot was designed to provide information related to preventing the disease and detecting possible symptoms.

American Eagle Outfitters, in the field of fashion, and Domino's Pizza [33], in the field of restaurants, have launched chatbots to collect orders and make product suggestions

Survey Paper 2

- **Author Name:** A. R. D. B. Landim, A. M. Pereira,
- **Title**: Chatbot design approaches for fashion E- commerce: an interdisciplinary review
- **Publication website**: https://www.tandfonline.com/loi/tfdt20
- **Published Date**:02 Nov 2021

Literature Review:

A first distinction of chatbots studies is along the lines of computational aspects (i.e. aspects related to the area of Computer Science or Information Technologies, such as the use of NLP) and non-computational aspects (i.e., all other aspects such as studying consumer acceptance).

Most research on chatbot computational aspects had English as their primary language (76.3%), followed by papers on Indonesian chatbots (6.8%) and other languages like Chinese and Bangla.

It is also worth mentioning that, while non-computational research mainly employed a diversity of ready-to-use chatbot tools like Amazon Alexa, computational papers usually focus on chatbot development using a specific programming language.

Survey Paper 3

- **Author Name:** Anusha Vegesna, Pranjal Jain, Dhruv Porwal
- **Title:** Ontology based Chatbot
- **Publication Website:** International Journal of Computer Applications
- **Publication Date**: January 2018

Proposed System:

The proposed system is an Ontology based chat-bot which will be mainly based on the E-commerce domain.

Ecommerce website APIs (Ebay website which is freely available) are used as the data source.

Ontology template is built using the PROTEGE platform that retrieves data from the data source (using Jape rules).

Ontology follows java object-oriented approach, such as inheritance to avoid redundancy that prevails in the existing systems

Modules Used:

Knowledge base (KB)

Ontology Template

Survey Paper 4

- **Author Name:** Amir-reza Asadi, Reza Hemadi
- **Title:** Design and implementation of a chatbot for e-commerce
- **Publication website:** ICTD (Information Communication Technology and Doing Business)
- **Published Date:** 2018

Literature Review:

This research is following the usage of conversational interaction for existing online stores whether they sell goods or services.

Since WooCommerce is the most popular solution technology for e-Commerce and 43% of the entire internet is using it, we have implemented the project based on WooCommerce.

Telegram is the most popular messenger in Iran the bot is implemented based on the Telegram API but the proposed design can also be implemented in a pop-up window of internet browser or Facebook messenger with a few modifications.

Related Works:

Chatterbots are not new programs in the computer world and ELIZA, the first chatterbot was released in 1966 but most of the existing chatbots are mainly for recreational and research purposes.

Most notable chatbots that were designed with the purpose of conversational commerce were released by the banking sector, for example DBS bank of Singapore has created its own virtual assistant which is called Digi Bank.

chatterbot is integrated with their website which is coded in PHP and has a MYSQL database. To make the chatterbot intelligent they used River Script.

Survey Paper 5

- **Author Name:** Samit Chakraborty, Md. Saiful Hoqu, Naimur Rahman Jeem , Manik Chandra Biswas, Deepayan Bardhan and Edgar Lobato
- **Title:** Fashion Recommendation Systems, Models and Methods
- **Publication website:** https://www.mdpi.com/journal/informatics
- **Published Date:** 26 July 2021

Literature Review:

Recommendation systems have the potential to explore new opportunities for retailers by enabling them to provide customized recommendations to consumers based on information retrieved from the Internet

They help consumers to instantly find the products and services that closely match with their choices.

different stat-of-the-art algorithms have been developed to recommend products based on users' interactions with their social groups

Survey Paper 6

- **Author Name:**Qingqing Tu,
- **Title:** Fashion Recommendation Systems, Models and Methods
- **Publication website:** https://www.mdpi.com/journal/informatics
- **Published Date:** 26 July 2021

Literature Review :

In this paper, we propose a novel system-Intelligent Personalized Fashion Recommendation System, which creates a new space in web multimedia mining and recommendation

(i) Interaction and recommender model,personalized demand with the current fashion trend & helps clients find the most favorable fashion factors in trend.

(ii) Evolutionary hierarchical fashion multimedia mining model, which creates a hierarchical structure to filer the key components of fashion multimedia information in the virtual space

(iii) Color tone analysis model, a relevant and straightforward approach for analysis of main color tone as to the skin and clothing is used.

RELATED WORKS:

Yasutomo Kawanishi, Hiroshi Murase, Satoshi Komorita, Sei Naito, "Aggregating Everyday Outfits by Incremental Clustering With Interactive User Adaptation", IEEE Access.

Sang-Young Jo, Sun-Hye Jang, Hee-Eun Cho, Jin-Woo Jeong, "Scenery-Based Fashion Recommendation with Cross-Domain Generative Adversarial Networks", 2019 IEEE International Conference on Big Data and Smart Computing (BigComp), pp.1-4, 2019.

Deepti Goel, Santanu Chaudhury, Hiranmay Ghosh, "Multimedia ontology based complementary garment recommendation", *2017 IEEE International Conference on Multimedia & Expo Workshops (ICMEW)*, pp.208-213, 2017.

Survey Paper 7

- **Author Name :** Angel Arul Jothi Ja, Razia Sulthana Aa
- **Title :** Fashion Recommender System using Deep Learning
- **Publication website :** International Journal of Performability Engineering
- **Published date :** 2021

Literature review :

Over the years, much research has been conducted on fashion recommendation systems. Different techniques such as image processing, machine learning, or deep learning have been incorporated in the recommendation systems. Online e-stores like Amazon, eBay, etc. customize fashion recommendation systems to satisfy the daily requirements of their customers. A number of different approaches are proposed to study the purchase pattern of the customers. This article reviews various works in fashion recommenders using deep learning that are published from 2016 to 2020. Researchers have used deep learning models distinctly or by pairing with other machine learning models in building the recommendation system. The manuscript provides a brief description of the persuading deep learning models that owns a place in recommendation systems.

Related works :

Shankar D., Narumanchi S., Ananya H.A., Kompalli P., and Chaudhury K. Deep learning based large scale visual recommendation and search for e-commerce, 2017, arXiv preprint arXiv:1703.02344.

Yang Z., Su Z., Yang Y., and Lin G., From recommendation to generation: A novel fashion clothing advising framework. In2018 7th International Conference on Digital Home (ICDH), IEEE, pp.180-186, 2018.

Zhou W., Mok P.Y., Zhou Y., Zhou Y., Shen J., Qu Q., and Chau K.P.Fashion recommendations through cross-media information retrieval.Journal of Visual Communication and Image Representation, 61, pp.112-120, 2019.

Survey Paper 8

- **Author Name :** Nikita Ramesh
- **Title :** Outfit Recommender System
- **Publication website :**https://scholarworks.sjsu.edu/etd_projects
- **Published date :** 2018

Literature review :

The online apparel retail market size in the United States is worth about seventy-two billion US dollars. Recommendation systems on retail websites generate a lot of this revenue. Thus, improving recommendation systems can increase their revenue. Traditional recommendations for clothes consisted of lexical methods. However, visual-based recommendations have gained popularity over the past few years. This involves processing a multitude of images using different image processing techniques. In order to handle such a vast quantity of images, deep neural networks have been used extensively. With the help of fast Graphics Processing Units, these networks provide results which are extremely accurate, within a small amount of time. However, there are still ways in which recommendations for clothes can be improved.

Related works :

[MF. Isinkaye, Y. Folajimi and B. Ojokoh, "Recommendation systems: principles, methods and evaluation", Egyptian Informatics J., vol. 16, no. 3, pp. 261-273, 2015.
[Online]. Available: https://en.wikipedia.org/wiki/Artificial_neural_network,
[Accessed: 12-Apr-2018]

R. Girshick et al, "Rich feature hierarchies for accurate object detection and semantic segmentation," in 2014 IEEE Conference on Computer Vision and Pattern Recognition, 2014. DOI: 10.1109/CVPR.2014.81.

R. Girshick, “Fast R-CNN,” in 2015 IEEE International Conference on Computer Vision (ICCV), 2015. DOI: 10.1109/ICCV.2015.169.