Personalizing the Digital Experience: Using Machine Learning Models for an Appealing User Experience

Politics of Designing a Digitally Personalized Experience

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By

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On my honor as a University student, I have neither given nor received unauthorized aid

on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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Sociotechnical Synthesis

Every day, people are faced with decision-making situations countless times, many of which are unnoticed. Naturally, experts or friends are the first points of contact, and with the widespread use of the internet within the 21st century, the transfer of information has become very rapid leading to the tracking and storage of user data for data-driven personalization. Both the social and technical reports investigate the responsibility and risk of Big Technology Companies (BTCs) utilizing user data for their own purposes. On one hand, BTCs are able to enhance their user's digital experience through their own collected data, however, there are many ethical dilemmas and perspectives that need to be considered when discussing digital personalization. Currently, in the United States as of 2022, there is no singular law that covers the privacy of all types of data. Instead, there exists a mix of laws that cover specific types of infractions, in addition, the vast majority of products people use every day are not regulated. This means that as users spend more of their time in the digital world, their safety and privacy are not ensured.

Throughout the summer of 2021, I interned as a full-time Software Engineer with PayPal working under the World Ready Team. I worked with two other interns and various other professionals from different departments to ensure users from all sectors tended to and had a meaningful experience while interacting with the company's suite of products. The team worked specifically on converting, preparing, and personalizing Polish data for live use this year. The overarching task was to improve user satisfaction whenever users would visit the page, through the use of relevant Natural Language Processing (NLP) models. This meant ensuring everything displayed is easily understandable, accessible, and most of all in a relatable format for each user. All of this was achieved based on data collected on each individual user. The tools that

we had built within the 12-weeks are still being used to date and have grown substantially.

After my departure, other Software Engineers were able to learn and analyze our software and apply the same tools we had used to create a similar project for many other markets, such as Spain. Ultimately, the company was able to see a rise in its original overall customer satisfaction of quality from 77% to 90%, as of February 2022.

The creation of personalized digital experience centers around the understanding of human nature and its interaction. A case study regarding the politics of designing a digitally personalized experience is conducted on Netflix and their use of their recommender systems and algorithms. Within the paper, various topics are analyzed, from the three main frameworks to highlight human cognition to ethical concerns involving recommender systems, algorithms, as well as their producers.

I would like to thank my family, and friends for their support throughout my internship. Additionally, team members, managers, and professors all were helpful from a technical standpoint for their assistance and advice throughout this entire process!

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