Open CIFRE PhD position on

the elaboration of AI-based models to understand and forecast in real time the best gamification marketing campaigns regarding users' behaviors

Keywords

Artificial Intelligence, Big Data, User behaviors, Digital Marketing campaigns, Forecasting.

Context of the collaboration

This thesis proposal is part of a collaboration between the Adictiz company (Lille) and the LIRIS laboratory (CNRS UMR 5205, Ecole Centrale de Lyon). The collaboration is in the areas of AI and Big Data.

Host company and research laboratory

Adictiz company

Adictiz's mission is to capture audiences' attention with interactive, playable formats, enabling brands to collect qualified data and monetize it.

On average, an Internet user is confronted with 4,000 advertising messages a day. In this saturated communications landscape, it is vital for advertisers to stand out from the crowd and be heard.

That's why Adictiz has chosen to focus its solutions on games, an interactive format that engages 40 times more than traditional content. Therefore, people at Adictiz have created the most comprehensive platform for creating interactive experiences on the market. A SaaS platform enabling brands to create their marketing games without any technical skills, and distribute them on their website, in their mobile app, on their in-store interactive kiosks, or in display ads.

With 50 employees based in Lille, Adictiz offers the advantages of a human-sized company with 13 years' experience: a structured onboarding process enabling each new employee to integrate quickly into our teams in a friendly environment (welcome breakfast, welcome kit, welcome meetings...), moments of exchange and synergy that punctuate our day-to-day work (Monthly meeting, Expertise meeting, ...), HR support for skills development, team buildings throughout the year.

To find out more: http://www.adictiz.com

LIRIS laboratory

The Computer Science Laboratory in Image and Information Systems (LIRIS) is a joint research unit (UMR 5205) of the CNRS, INSA Lyon, Claude Bernard University Lyon 1, Université Lumière Lyon 2 and the Ecole Centrale de Lyon. It has 330 members. LIRIS's research concerns a broad spectrum of computer science within its twelve research teams structured into six centers of expertise, including AI and Big Data analysis.

To find out more: http://liris.cnrs.fr

Context of the research

Each year more than 110 million data are collected at Adictiz through two platforms, namely BOX and SOCIALSHAKER: this can be socio-demographic data (e.g. gender, age, address, etc.), behavioral data (e.g. products "likes", clicks on buttons, etc.) and psychological data (lifestyle, preferences, etc.). This data is collected through gamified marketing campaigns deployed by Adictiz clients on their SaaS platforms (more than 10,000 created in 2023).

An effort has already been made on CIR research to understand how players interact with elements, such as forms, game modes, buttons, etc., of marketing campaigns to have an appreciation of what impacts player's engagement depending on who they are and where they come from [1,2,3,4,5].

For instance, in the 2022 research, the investigations carried out enabled to highlight several facts about the age of players. The most interesting fact is that younger players seem more inclined to play "rookie" type games and therefore give out their email. For this, the statistically significant data used, coming from SOCIALSHAKER, seems to go in this direction, and several analyzes have been carried out to try to answer this question.

Analyzes were extended to attempt to establish geographic behavior as a function of age. Although the results are not perfectly consistent between BOX and SOCIALSHAKER, there are strong similarities in the age groups most represented on the two platforms: the 25-39 and 40-54 age groups. For other age groups, the differences are a little more significant; the targets between the 2 products being different, this could be an explanation: BOX is mainly used by big brands and is aimed at a wider audience, while SOCIALSHAKER is mainly used by more confidential brands and therefore a more restricted audience.

Lastly, investigations have been carried out to highlight the link between geography and the origin of marketing campaign traffic, most of which comes from email through the activation of CRM and social networks. The results show substantial differences between some regions, but geographically close regions in terms of density and urbanization have similar results. This is particularly the case for Ile-de-France for advertising on social networks, Pays de la Loire and Brittany for email.

Today, it is planned to go further by using data from the last 4 years to deepen 2 research directions based on AI models:

- Create an AI assistant in our SaaS Platform which would be fed by our data and FAQs to help our clients build more productively their marketing campaigns depending on who their target audience is (young people, women/men etc.)

- Offer in real-time to the final user (the players) thanks to AI, the best marketing campaign and promotions to enhance conversion rate on clients' e-commerce websites.

Hypothesis and approach of the PhD project

At this stage of the research on collected data, static analysis is run on past data to better understand players' behaviors. A real-time database is built on BigQuery fed by the interaction of the players with the marketing gamified campaigns. The data set is about to be expanded thanks to the behaviors of customers on the platforms and tomorrow by the interactions of the actors of the customers' e-commerce sites. This vast set of real-time data is essential and is desirable to exploit.

The aim is to elaborate the best AI models to be run on all data set and all the content available on existing platforms to start helping end-users to be much more productive in the way they create their marketing campaign by giving them the best possible insights depending on their targeting audience. On the other hand, it is planned to leave the created campaign dynamic, at a given moment, to evolve in real time depending on the behavior of the players.

For example, a match 3 game mechanic could be recommended (e.g. https://www.adictiz.com/project/match-3/) for young players, to the client on the platform and help them build it automatically by the AI assistant. Once this is done, this campaign would be displayed on the e-commerce site. If a young player plays and watches a specific product 5 times on a product page for example, we could, if he wins match 3, offer him a promotion on this specific product. Ultimately, the client would save time in creating their campaign on our platform, have a better marketing strategy with young audiences by offering them the best games and the best discount on their e-commerce site. The conversion rate would increase and so would loyalty.

The main target for the PhD project is to develop efficiency on both the client and player side to save them time in terms of productivity and provide the best interactive experience on the other side thanks to AI.

The PhD candidate would need to investigate and propose efficient AI models and machine learning strategies [6,7,8] for this purpose, configure data feeding and start with simple case studies to meet the above objectives. He would be part of the Product and Technology team of Adictiz and at the same time member of LIRIS lab at Ecole Centrale de Lyon.

Required profile

- The candidate must get a M.S. degree or an Engineer diploma (that corresponds to Bac+5 in France) in Computer Science,
- Programming languages: Python, Symfony php,
- Database: MySQL, MongoDB,
- Scientific knowledge: Machine Learning and Deep Learning. Knowledge in Big Data is a plus,
- Languages: French or English.

Place

- Adictiz, 2 rue Fourier, Lille, France
- Laboratoire LIRIS, CNRS UMR 5205, Ecole Centrale de Lyon, 36 avenue Guy de Collongue, 69130 Ecully, France

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Please provide your CV, the motivation letter, and the transcripts with your marks for the last two years of studies.

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