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## Mémoire de Fin d'étude

Pour l'obtention du diplôme d'Master

Filière : **Informatique**

Spécialité : **Intelligence artificielle et science des données (IASD)**



## Thème

State of the art - Recommendation systems via Reinforcement Learning -



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## Abstract:

Artificial Intelligence (AI) has witnessed remarkable advancements in recent years, catalyzing transformative changes across various domains. Within this landscape, recommendation systems have emerged as a cornerstone of AI, revolutionizing the way machines understand and predict user preferences. These systems play a pivotal role in various applications, ranging from e-commerce and content streaming to personalized marketing and social media engagement.

This thesis conducts a comprehensive examination of **interactive** and **sequential** recommendation systems, analyzing their state-of-the-art methodologies. By delving into the intricacies of these systems, the study explores advanced techniques such as reinforcement learning, neural collaborative filtering, and knowledge graph integration. The comparative analysis highlights key strengths and weaknesses of existing approaches, providing a thorough understanding of the current landscape of recommendation technologies.

By shedding light on the challenges and limitations of existing recommendation systems, this thesis aims to contribute to a deeper understanding of their potential applications and implications. The findings underscore the importance of continued innovation in this field and provide actionable insights for future research directions. These insights are geared towards enhancing the utility of recommendation systems in various domains, ultimately leading to more intuitive and effective user experiences.

This research serves as a comprehensive resource for scholars and practitioners, encouraging the exploration of novel methodologies and the integration of emerging technologies to push the boundaries of what recommendation systems can achieve.