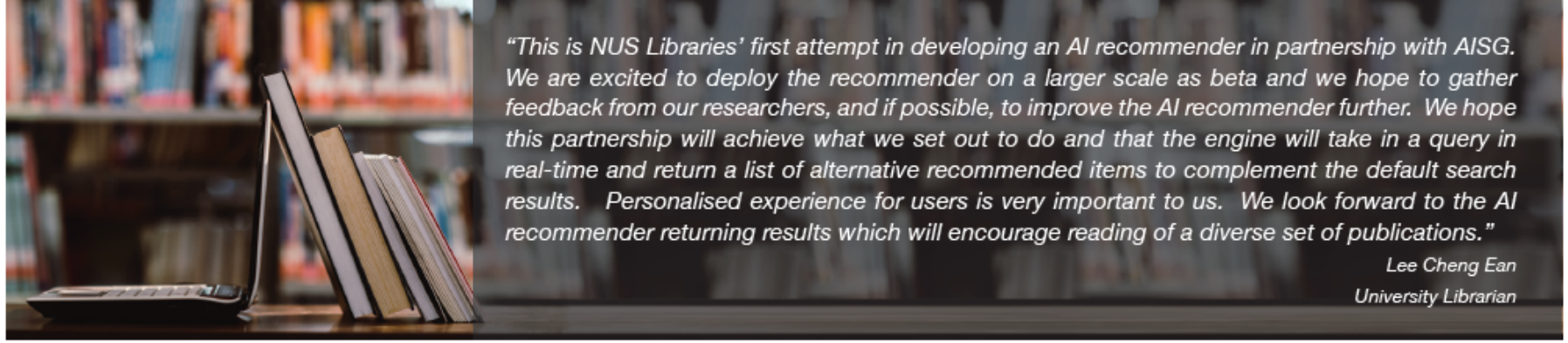
NUS National University of Singapore | NUS Libraries

NUS Libraries Recommender System

NUS is ranked consistently as one of the world's top universities. They offer the most extensive college degree courses in Singapore.

The NUS Libraries comprises eight libraries. They support teaching and research for various schools, faculties, and their graduate divisions as well as administrative units and research institutes.



"This is NUS Libraries' first attempt in developing an AI recommender in partnership with AISG. We are excited to deploy the recommender on a larger scale as beta and we hope to gather feedback from our researchers, and if possible, to improve the AI recommender further. We hope this partnership will achieve what we set out to do and that the engine will take in a query in real-time and return a list of alternative recommended items to complement the default search results. Personalised experience for users is very important to us. We look forward to the AI recommender returning results which will encourage reading of a diverse set of publications."

Lee Cheng Ean
University Librarian

BACKGROUND

- NUS Libraries launched a unified search system called FindMore in Dec 2019 that performs a search across multiple internal and external databases and consolidates the results to the users
- NUS Libraries wishes to augment the search engine with a recommender system, so as to provide a more personalised experience for users, and to encourage them to read more by uncovering more diverse yet relevant items

BUSINESS CHALLENGE

How can NUS Libraries use AI to:

- Engage library users better by analysing their users' profiles and reading history, in order to recommend items that might be of high relevance and interest
- Increase the range of items being transacted given their rich database of items

AI SOLUTION DEPLOYED

An AI recommender system was deployed on the FindMore portal as an endpoint.

- The engine takes in a query in real-time and returns a list of alternative recommended items to complement the default search results
- The model learns from i) the search term's natural language features ii) titles/descriptions of items in the database iii) historical transactions between every user and item in the database
- The system can also make recommendations to NUS Libraries' email subscribers on a weekly basis based on the user's profile, preference and transactional history to suggest relevant items

OUTCOMES

The recommender engine achieved a click-to-open rate that is 4x higher than the global benchmark for the Education and Training industry

The team delivered a pipeline to automatically consume incremental data and update the model accordingly, re-serving the query application and generating new recommendations for email subscribers

The solution was tested for deployment in NUS Libraries' production environment and will be integrated as a beta version when the upgraded FindMore portal goes live