



4 AI Powered Solutions to Simplify the Student Admission Process

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EXECUTIVE SUMMARY

Student enrolment process is a crucial step for students and the college/university alike. It involves the important yet challenging tasks of ensuring the students complete the enrolment process, guiding them towards the right courses, and providing them help with the entire procedure. AI has made this exercise much simpler. This White Paper discusses 4 key areas where AI can be used to make the enrolment process much easier and more effective. These areas are: Course recommendation, Dropout/Melt Analysis, Intelligent Councillor Assignment and Chatbot.

WHITEPAPER

Artificial Intelligence (AI) can play an active role in simplifying and improving the student enrolment process at colleges and universities as these institutions increase their intake of students every year. It has been projected that by 2026 over **21 million** students would enrol at public and private colleges. And yet, according to the 2017 Survey of College and University Admissions Directors, only **34%** of colleges could meet their new student enrollment targets in 2017.

Aside from meeting the enrolment targets, the other tasks involved in the student enrolment process including recruiting applicants, gathering information, offering guidance and counselling on the best course for students, and simplifying the process to eliminate dropout rate need to be streamlined. In recent years, however, AI has played a key role in simplifying the student admission process. With the enrolment process in full swing for the Fall Semester, it is relevant that we discuss a few ways in which AI can help.



ADVANTAGES OF AI IN EDUCATION

Educational data mining with prediction models have been in use for some time to help predict students' future performance and chances of dropping out. Key data on demographic characteristics and grading are analyzed to provide data sets for machine learning which provide the basis for inference and implementation.

Machine learning has distinctive advantages over statistical models which were earlier used. Statistical models rely on assumptions inferred from the problem. The predictive power of the model is affected if the assumptions are wrong. Machine learning models, on the other hand, rely on solid data and are thus better at predictive performance. Another advantage of machine learning is its adaptability. These models learn and adapt to change in performance factors or other variables, which is inevitable in student patterns.

Keeping this in mind, this WP discusses four ways in which AI finds use in the student admission process.

- ❖ **Course recommendations:** AI algorithm helps analyze student interests and then automatically recommend the best courses for them.
- ❖ **Dropout/melt analysis:** Find the probability of a student dropping out during the enrolment stage or before the completion of the enrolment process.
- ❖ **Intelligent Councillor Assignment:** Assign probable dropouts with the right councillors to help complete the enrolment procedure for them, thus closing the admissions faster.
- ❖ **Chatbot:** Integrate AI-powered chatbots for student query responses as well as other engagement via web and social media.

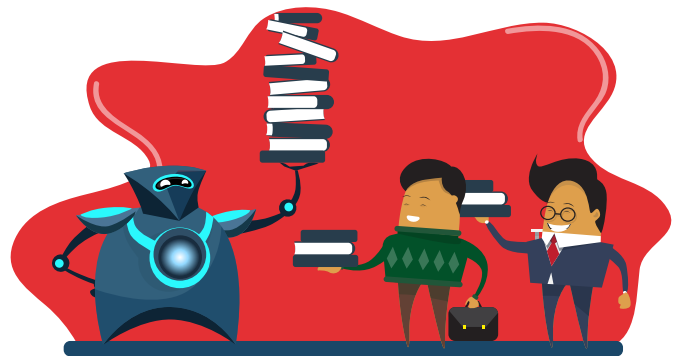


Solution #1

COURSE RECOMMENDATIONS

A weighty responsibility in the enrolment process is to guide students to the right courses. A study conducted for the Higher Education Policy institute and the Higher education Academy (HEPI - HEA) in the UK reports that one out of three students surveyed feels they have selected the wrong course to study. The study says: “Given that there are 1.4 million full-time undergraduates, this suggests there could be nearly 500,000 full-time students who believe they are on a sub-optimal course.” About 21% of these students pin vague or inadequate information as the reason for the mismatch.

Course recommendation can definitely be a challenge considering the wide variety of specialized courses offered and the massive number of students who apply for them.



HOW AI HELPS

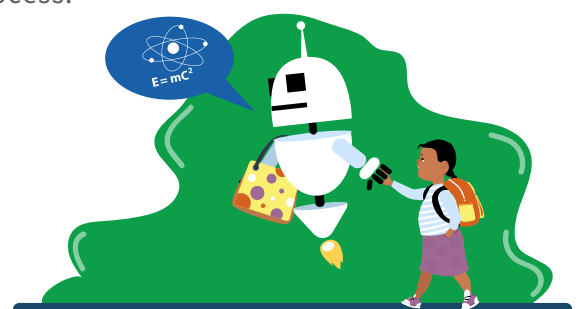
A number of factors such as grades, hours of study, previous academic achievements along with categorical variables like socio-economic background, parental educational profile and occupation, etc., are collected. Assimilation and predictive analysis of this data by the machine learning models help find the right course for each student. Some of the techniques used include: Collaborative Filtering Recommendation System, Linear Regression and Support Vector Regression.

Solution #2

DROPOUT/MELT ANALYSIS

Research shows that “among students who intended to transition directly from high school into college, approximately 10 percent fail to do so.” This indicates that there are factors that cause the newly enrolled students to drop out or melt before the enrollment process is completed. The research report suggests that the pressure to complete placement tests and forms, obtain health insurance, foot the tuition

costs and other factors could result in the students “melting” away from the enrollment process.

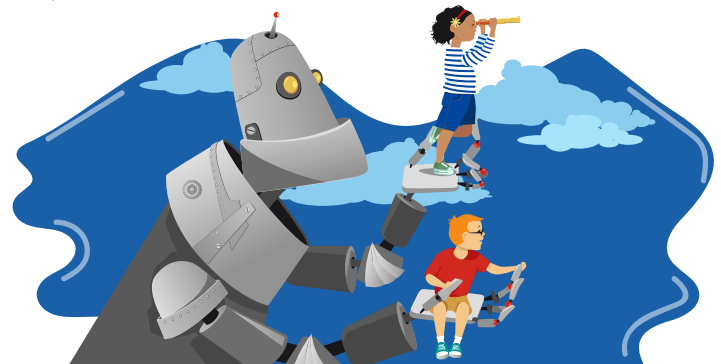


HOW AI HELPS

The same research points out that this “melt” is particularly seen in students who come from “low-income and first-generation college-bound students whose family members may lack experience with the college going process.” Machine learning can help identify these students and their families by processing the data related to their socio-economic backgrounds. Subsequently, information on the various avenues of financial aid, help with paperwork, and other supportive guidance can help eliminate this dropout.

Solution #3 INTELLIGENT COUNCILLOR ASSIGNMENT

Finding the right councillor to match a student who is likely to drop out is extremely important. The same research has found that offering the right support increases enrollment by 8-12% among low-income students.



HOW AI HELPS

Once a probable dropout has been identified by AI, the next step would be to prevent its occurrence by getting the right councillor on the job. With adequate data points available for students and councillors, AI algorithms can assign likelihood or probability scores to each councillor who could most effectively relate to each student and close the enrollment faster. This way, both the students and the councilors can be parameterized and made into a ‘feature-set’. AI-driven algorithms are then used to find which counsellor best matches the student, thus performing the action of a recommendation engine.

Solution #4 CHATBOT

Providing the right guidance to students at the right time goes a long way in positively influencing their decision to enrol. The best way to reach the students is on their phones and computers, and chatbots make this possible. Personal interaction with the school to get their queries answered is critical in the decision to enrol.



HOW AI HELPS







A chatbot facilitates this by simulating a human conversation. With Natural Language processing, data mining and machine-learning, the chatbot makes intelligent decisions on how to answer student queries. Scanning its knowledge base, chatbots generally use the power of AI to ask intelligent questions and process the inputted information to give the right answer. With machine learning, the chatbot becomes more intelligent with each query and provides the right guidance to students.

Social media and other education forums are another great way to keep up with student queries. Facebook Messenger bots and similar avenues can be used for faster responses and interaction with students, thus speeding up the enrollment process successfully.

CONCLUSION

These four ways enable to streamline the student enrolment process with the integration of AI. The power of AI can also be used to address other challenges in the admissions process such as undermatching and overmatching, which have been a bane in the education sector. As we can see, the possibilities of AI are indeed limitless.

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