Mental Health
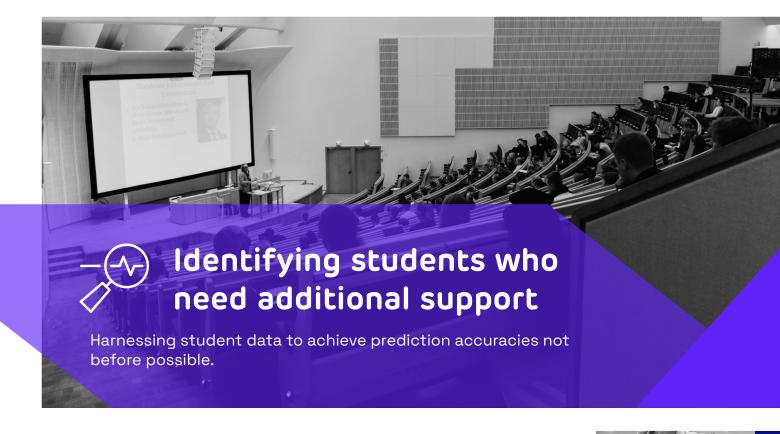# Early Warning System

An early warning system for university students experiencing a form of mental health distress.
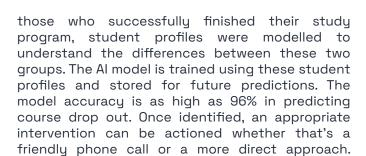
Identifying students who need additional support

Harnessing student data to achieve prediction accuracies not before possible.

Blackbook.ai has created a Mental Health Early Warning System for Australian Universities

The model test accuracy was found to be as high as 96%.

By harnessing the vast amounts of data universities have captured on each student, it's now possible to leverage modern neural network architectures to achieve prediction accuracies not before possible. Blackbook.ai is taking data from across the entire student experience from standard demographic information to mouse cursor patterns on university websites. Every scrap of data is channelled into neural nets where they alone decide the salience of each feature, far away from typical human bias.

From comparing students who reached out for help (voluntary counselling sessions, mental health specific exam accommodations, etc) in the past to those who successfully finished their study program, student profiles were modelled to understand the differences between these two groups. The AI model is trained using these student profiles and stored for future predictions. The model accuracy is as high as 96% in predicting course drop out. Once identified, an appropriate intervention can be actioned whether that's a friendly phone call or a more direct approach.

On a technical front, the model development is carried out in a DataBricks environment hosted in AWS. Student data is stored in Amazon RDS and queried/processed using SQL and Spark.