

(54) Title of the invention : A MODEL FOR PREDICTION OF STUDENTS ACADEMIC PERFORMANCE AND DROPOUT IN HIGHER EDUCATION USING HYBRID MACHINE LEARNING ALGORITHMS

<p>(51) International classification :G06Q0050200000, G06N0003080000, G06N0020000000, G06N0007000000, G06Q0010100000</p> <p>(86) International Application No Filing Date :PCT// :01/01/1900</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number Filing Date :NA :NA</p> <p>(62) Divisional to Application Number Filing Date :NA :NA</p>	<p>(71)Name of Applicant :  <b>1)RAJESH KANNAN K</b>  Address of Applicant :RESEARCH SCHOLAR, Department of Computer Science &amp; Engineering, Annamalai University, Annamalai Nagar-608002 -----</p> <p><b>2)Dr. KT. MEENA ABARNA</b>  <b>3)Dr. S. VAIRACHILAI</b>  Name of Applicant : NA  Address of Applicant : NA</p> <p>(72)Name of Inventor :  <b>1)RAJESH KANNAN K</b>  Address of Applicant :RESEARCH SCHOLAR, Department of Computer Science &amp; Engineering, Annamalai University, Annamalai Nagar-608002 -----</p> <p><b>2)Dr. KT. MEENA ABARNA</b>  Address of Applicant :Department of Computer Science &amp; Engineering, Annamalai University, Annamalai Nagar-608002. ---</p> <p><b>3)Dr. S. VAIRACHILAI</b>  Address of Applicant :Department of Computer Science &amp; Engineering, CVR College Of Engineering, Vastunagar, Mangalpalli (V), Ibrahimpatnam (M), Rangareddy (D), Telangana 501 510. -----</p>
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(57) Abstract :

Educational institutions play vital role in moulding citizens into very useful workforce required in the real world. With the advent of modern techniques and algorithms, it is indispensable to have performance evaluation in higher education from time to time towards improving academic performance. The current invention is an Artificial Intelligence (AI) based model meant for prediction of students' academic performance and dropout in higher education using hybrid machine learning algorithms. The invention has underlying Hybrid Feature Selection (HFS) algorithm based on filter based feature selection approach. The hybrid approach exploits entropy and information gain features in order to identify features that are relevant and contribute to the class label prediction. After feature selection, the selected features are given to multiple baseline prediction models in a pipeline in order to have the predictions pertaining to performance of students and their dropout behaviour. The multi-model ML based approach makes use of HFS in order to improve quality of training. Since the supervised learning methods heavily depend on the quality of the training data HFS adds value to them in improving prediction performance. The invention is evaluated with various performance metrics so as to generalize its utility in higher education institutions. The current invention is beneficial to make stakeholders such as Educational institutions, academic professionals, education departments and officials besides researchers and academia.

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