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| | | | authors | <ul style="list-style-type: none">Abdi Ghavidel, Hadi | DUPLICATES | 186 | | |
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| | | | | | | | abstract | <p>RÅ%SUMÅ% : Lâ€™Ã©valuation des rÃ©ponses courtes en langage naturel est une tendance dominante dans tout environnement Ã©ducatif. Ces techniques ont le potentiel dâ€™aider les enseignants Ã mieux comprendre les rÃ©ussites et les Ã©checs de leurs Ã©lÃ©ves. En comparaison, les autres types dâ€™Ã©valuation ne mesurent souvent pas adÃ©quatement les compÃ©tences des Ã©lÃ©ves, telles que les questions Ã choix multiples ou celles oÃ¹ il faut combler des espaces. Cependant, ce sont les moyens les plus frÃ©quemment utilisÃ©s pour Ã©valuer les Ã©lÃ©ves, en particulier dans les envi-ronnements de cours en ligne ouverts (MOOCs). La raison de leur emploi frÃ©quent est que ces questions sont plus simples Ã corriger avec un ordinateur. Comparativement, devoir com-prendre et noter manuellement des rÃ©ponses courtes est une tÃ¢che plus diÆicile et plus longue, dâ€™autant plus en considÃ©rant le nombre croissant dâ€™Ã©lÃ©ves en classe. La notation automatique de rÃ©ponses courtes, gÃ©nÃ©ralement abrÃ©gÃ©e de lâ€™anglais par ASAG, est une solution parfaite-ment adaptÃ©e Ã ce problÃ©me. Dans ce mÃ©moire, nous nous concentrons sur le ASAG basÃ© sur la classification avec des notes nominales, telles que correct ou incorrect. Nous proposons une approche par rÃ©fÃ©rence basÃ©e sur un modÃ©le dâ€™apprentissage profond, que nous entraÃªnons sur quatre ensembles de donnÃ©es ASAG de pointe, Ã savoir SemEval-2013 (SciEntBank et BEETLE), Dt-grade et un jeu de donnÃ©es sur la biologie. Notre approche utilise les modÃ©les BERT Base (sensible Ã la casse ou non) et XLNET Base (seulement sensible Ã la casse). Notre analyse subsÃ©quente emploie les ensembles de donnÃ©es GLUE (General Language Un-derstanding Evaluation), incluant des tÃ¢ches de questions-rÃ©ponses, dâ€™implication textuelle, dâ€™identification de paraphrases et dâ€™analyse de similitude textuelle sÃ©mantique (STS). Nous dÃ©montrons que celles-ci contribuent Ã une meilleure performance des modÃ©les sur la tÃ¢che ASAG, surtout avec le jeu de donnÃ©es SciEntBank.----- ABSTRACT : Assessment of short natural language answers is a prevailing trend in any educational envi-ronment. It helps teachers to understand better the success and failure of students. Other types of questions such as multiple-choice or fill-in-the-gap questions donâ€™t provide adequate clues for evaluating the studentsâ€™ proficiency exhaustively. However, they are common means of student evaluation especially in Massive Open Online Courses (MOOCs) environments. One of the major reasons is that they are fairly easy to be graded. Nonetheless, understand-ing and marking manually short answers are more challenging and time-consuming tasks, especially when the number of students grows in a class. Automatic Short Answer Grading, usually abbreviated to ASAG, is a highly demanding solution in this current context. In this thesis, we mainly concentrate on classification-based ASAG with nominal grades such as correct or not correct. We propose a reference-based approach based on a deep learn-ing model on four ASAG state-of-the-art datasets, namely SemEval-2013 (SciEntBank and BEETLE), Dt-grade and Biology dataset. Our approach is based on BERT (cased and un-cased) and XLNET (cased) models. Our secondary analysis includes how GLUE (General Language Understanding Evaluation) tasks such as question answering, entailment, para-phrase identification and semantic textual similarity analysis strengthen the ASAG task on SciEntBank dataset. We show that language models based on transformers such as BERT and XLNET outperform or equal the state-of-the-art feature-based approaches. We further indicate that the performance of our BERT model increases substantially when we fine-tune a BERT model on an entailment task such as the GLUE MNLI dataset and then on the ASAG task compared to the other GLUE models</p> |
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