香港城市大學
City University of Hong Kong

Fighting Against Written Submission Cheating for Circuited Related Courses through Advanced Artificial Intelligence Algorithms

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Abstract:

Students are expected to adhere to academic integrity, including prohibitions against plagiarism. However, there are many reasons for students to plagiarize. While there exist some software tools (e.g., Turnitin) for plagiarism detection of students' written submission, they may not be able to be applied to circuit-related courses (which are compulsory for EE major in CityU) since the written submission of circuit-related courses involves many equations and figures in image format while existing software relies on natural language processing for text matching. In this proposal, we aim to develop a framework to detect possible cheating behavior in circuit-related courses where students can submit a picture to avoid text match (e.g., text matching adopted by Turnitin). Our framework consists of three components, 1) image enhancement module, 2) optical character recognition module for equations, 3) object detection recognition module for circuit figure drawing. We expect that the successful implementation of our framework ensures high-quality teaching and fair assessment of students' learning progress for circuit-related courses.