



Study with Me: Self-Regulated Learning with Virtual Studying Environments and Personalized Study Companion

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Abstract: Access to higher education correlates to the growing income inequality in the US. For example, students pursuing four-year of college in STEM or related fields have a higher income potential than those with lower levels of education or those who pursue in non-STEM fields (e.g., median income: $\$77,400$ in STEM work vs. $\$46,900$ non-STEM work per year), according to Pew Research (2019). However, the increasing cost of college education in STEM or related fields in the US is prohibitive to many students in low-income households; thus, making the benefit of higher education inequitable. This proposal aims to make higher education equitable by addressing the wicked problems in Massive Open Online Courses (MOOCs). These online courses have emerged as a low-cost alternative to higher education accessible to students worldwide, including those in low-income households. Drawing on the recent developments in artificial intelligence (AI), education, and human-computer interaction (HCI) research, we first design and develop an interactive, personalized, human-faced, conversation AI agent that will accompany students in MOOCs platforms to enable self-regulated learning practice.

We will simulate a virtual environment with personalized ambiance, where AI agents and humans can collaborate to create a new, desirable learning experience for MOOCs learners. Our work will create a broader societal impact by assisting learners across the US and the world.