Topics from Dr Sazzad Hussain

Topic 1: NLP and NLG based tools for assisting moderators who help young people via social media

Summary: The global need to effectively address mental health problems and wellbeing is well recognised. Today, online systems are increasingly being viewed as an effective solution for their ability to reach broad populations. As online support groups become popular the workload for human moderators increases. Maintaining quality feedback becomes increasingly challenging as the community grows. Tools that can automatically detect mental health problems from social media posts and then generate smart feedback can greatly reduce human overload. Using Natural Language Processing (NLP) and Natural Language Generation (NLG) techniques, system can be designed to generate automated interventions based on key-terms and concepts extracted from the text posted by members. The human moderator can then select and edit these interventions before sending to a member. The system can also implement behaviour analysis tools to measure the impact of the interventions.

Topic 2: Visualisation tools to assist learners for monitoring and regulating their learning with Intelligent Tutoring Systems

Summary: Cognitive tools can help students learn by providing strategies that guide their learning through adaptive scaffolding. These tools can model learners’ behaviors and promote self-regulated learning (SRL). However, measuring engagement and tracing SRL can be challenging. Software tools that incorporate data mining techniques are required to analyse and visualise how learners interact with cognitive tools such as intelligent tutoring systems (ITS). These visualisation tools can provide valuable information to the learner about their learning experience and performance, which can promote SRL. The information will also allow educators and even tutoring systems to provide interventions to improve the quality of engagement, self-regulation, and the overall learning experience.