Annexure – I

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Branch: Computer Science

Title of Thesis: Intelligent Content Sequencing Through Preferences and Feedback of Special Needs Learners

Abstract

Learning through technology possesses two main components: Digital learning objects creation and sequence of order in which the learning objects are taken up for learning. This research mainly focuses on the sequencing of the learning content for specially-abled children. Many sequencing algorithms have been developed that provide methods for dynamic content sequencing. This work uses the meta-heuristic approach for sequencing of learning objects in creating personalized learning sequences using modified Ant Colony Optimization algorithm. It is an efficient approach for self-organizing learning and assists in personalizing the learning requirements of specially-abled children. The research proposes recommendation of learning paths using learner's preference and personal traits. As the learner takes up learning contents, depending on the learner's performance on the fly, new learning sequences are generated and provided to the learners. The study is carried out for Attention Deficit and Hyperactive Disorder (ADHD) and children facing Learning Disability (LD). This PhD thesis would be useful for imparting educational aid to specially-abled children, parents, mentors, counsellors, psychologists, psychiatrists and experts in the domain of special education.

List of Publications:

1) "A Survey on Effects of Computer Based technology for Special Needs Learners" - International Journal of Advanced Networking and Applications (Nov 2014). ISSN No. : 0975-0290
2) "Adaptive Learning model for ADHD and LD children: An Approach" - National Conference on Emerging Research Trends in Engineering, GVEC, Chandkheda, Gujarat (April 2016).
3) "Improving Content Sequencing of Packaged Content through Feedback and Priority" - International Conference on Information and Communication Technology in Business, Industry and Government, Udaipur, Rajasthan, India (October 2016)
4) "Multi-agent Simulation Model for Sequence Generation for Specially Abled Learners". In: Satapathy S., Joshi A. (eds) Information and Communication Technology for Intelligent Systems (ICTIS 2017) - Volume 1. ICTIS 2017. Smart Innovation, Systems and Technologies, vol 83. Springer, Cham
5) "Learning Needs for Special Needs Learners: A Graph based Adaptive Approach for Content Sequencing" 2017 International Conference on Soft Computing and its Engineering Applications (IEEE icSoftComp2017) (Dec-2017). doi:10.1109/ICSOFTCOMP.2017.8280090