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Creating an affordable ,effective, adaptive & personalized attention tasks for children with developmental disorders.

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Abstract

The main challenge in studying cognition & designing effective tasks for children with learning disorders is creating personalized & adaptive tasks in line with the current abilities & mood of the child. The current study confronts this challenge by testing a new paradigm to access the current state of mind and adapting the tasks based on the current mood & abilities of the child. Children were given chess puzzles with various levels of difficulty (from just identifying the pieces, legal moves and eventually even capturing pieces with depth=1). while the children were performing the tasks the pupil-metric data (for cognitive load), facial expressions and the head pose were used to gauge the current-state and adapt the puzzles accordingly. Further development of dynamic feedback and providing rewards for looking at the right squares are also underway. custom software with off the shelf web-cameras were used as the current solutions in the market are prohibitively expensive for testing on large scale.