

Effectiveness Validation of Visualization Designs

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Summary:

For better visualizations, various researchers have proposed and evaluated visualization design through quantitative methods of response accuracy and time for completing visualization tasks. However, quantitative approaches do not fully mirror mental workload. Therefore, questionnaires and biosignals have been employed to measure mental workload in visualization assessments. In this work, we study the EEG as a biosignal to measure mental workload for visualizations. We examine whether there is a difference in mental workload for the visualization designs and then propose a mental workload estimation model specialized for each individual to evaluate visualization designs using EEG.