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Computer Detection of Spatial Visualization in a Location-Based Task

An untapped area of productivity gains hinges on automatic detection of user cognitive characteristics. One such characteristic, spatial visualization ability, relates to users’ computer performance. In this dissertation, we describe a novel, behavior-based, spatial visualization detection technique. The technique does not depend on sensors or knowledge of the environment and can be adopted on generic computers. In a Census Bureau location-based address verification task, detection rates exceeded 80% and approached 90%.