

Towards neuroadaptive navigation assistance to reduce spatial de-skilling

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Maps have been invaluable navigation aids for millenia and thus critical for human survival. Increasing popularity of and dependence on current smart navigation technology, however, has shown to divert our attention from the environment and influence innate spatial abilities. To mitigate this, I propose neuroadaptive mobile maps that respond in real-time to navigators' cognitive task demands and visuo-spatial attention needs. In doing so, responsive displays may not only help us to maintain navigation efficiency, but more importantly, to also scaffold spatial learning. The proposed responsive navigation solution must strike the appropriate balance between welcomed mobility efficiency gains while limiting human spatial deskilling. Leveraging neuroadaptive cartography, we can ensure to remain effective navigators, empowered to explore the world with confidence.