

# BIGnav: Bayesian Information Gain for Guiding Multiscale Navigation

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**Keywords:**

Multiscale navigation, Guided navigation, Bayesian experimental design, Mutual information

**Awards:****Abstract:**

This paper introduces BIGnav, a new multiscale navigation technique based on Bayesian Experimental Design where the criterion is to maximize the information-theoretic concept of mutual information, also known as information gain. Rather than simply executing user navigation commands, BIGnav interprets user input to update its knowledge about the user's intended target. Then it navigates to a new view that maximizes the information gain provided by the user's expected subsequent input. We conducted a controlled experiment demonstrating that BIGnav is significantly faster than conventional pan and