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(57) Abstract :

A context-aware feature selection system includes an input acquisition unit (101), a preprocessing unit (102), a context encoder (103), a feature embedding engine (104), a relevance scoring network (105), a selection controller (106), a validation interface (107), and an output integration module (108). Incoming data are partitioned into candidate features and contextual descriptors. The context encoder (103) generates a latent state representation, and the relevance scoring network (105) produces context conditioned feature scores. The selection controller (106) derives a retained subset for downstream predictive modeling, thereby enabling adaptive dimensional reduction with improved contextual relevance and deployment efficiency.

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