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(57) Abstract :
The present invention discloses a privacy-preserving wearable device (100) comprising a biometric sensor array (101), inertial measurement unit (102), microcontroller (103) with secure enclave (104), and machine learning coprocessor (106). Behavioral analytics are executed locally without external data exposure. A privacy switch interface (107) allows user control over data sharing. Processed summaries are encrypted and optionally exportable via secure tokens. The device enables secure, energy-efficient behavior monitoring, supporting modular sensors and dynamic privacy configuration for healthcare and consumer analytics applications.

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