

REALITY AI ROLLER FLOOR TYPE DETECTION

Application example to classify floor type without additional sensors

Has your vacuum cleaner or robot vacuum gotten tangled on high pile carpet or rug tassels? The vacuum roller floor type detection application example is engineered to eliminate those issues to achieve higher efficiency while vacuum cleaners are running. This extends battery-operated units operating time by adjusting the power and improves user experience at the same time. The combined capabilities of [Reality AI Tools](#) and [RealityCheck™ Motor](#) allows designers to generate models and enrich with predictive maintenance and anomaly detection to avoid stalled operation and overheating.



Features

- Detects carpet and wood floors and allows for easy expansion of additional floor types
- Engineered for speed and responsiveness while maintaining high accuracy
- Proof of concept demonstration available with [MCK-RA6T2](#)

Benefits

- Flawless feature extraction for the best fit ML model and optimal embedded AI implementation within the [e²studio](#) development flow
- Cost-effective BOM approach as no additional sensors needed
- Higher efficiency with dynamic speed adjustment depending on floor type
- Extends battery lifetime
- Improves overall system energy consumption

Applications

- Industrial and Home Appliances



Handheld vacuum cleaner



Vacuum cleaner



Robot vacuum cleaner



Floor mop cleaner

For more information including documentation and project files, visit renesas.com/realityai-tools