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Title:

Motorized Head-above-torso Rotations for Artificial Heads

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Abstract:

Artificial heads are capable of capturing sound fields in a human-like manner, allowing for human-like signal analysis. Moreover, if equipped with an artificial mouth, artificial heads also allow for speech reproduction with realistic acoustics. Usually, the head is in a fixed position above the torso. Some applications require rotating the head relative to the shoulders, though.

There are a few implementations that allow for a head-above-torso rotation -- either manually or in a motorized fashion. These implementations are restricted to stationary measurements at different rotation angles, though.

This demonstration presents an implementation of an artificial head that is capable of silently performing precise motorized head-above-torso rotations. In contrast to previous systems, smooth and silent movements are possible, allowing for simultaneous head rotation and measurement. Such dynamic measurements open up new areas of application. System capabilities are demonstrated by means of live acoustic measurements and a real-time localization demonstration.