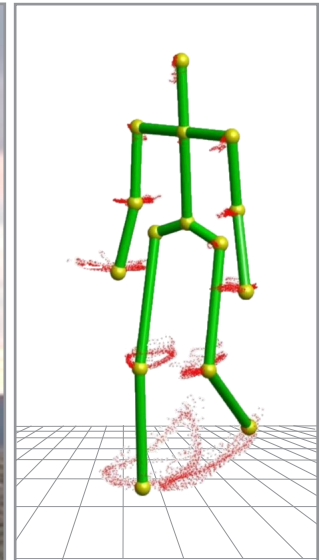


Licensing Opportunity

Camera drones for 3D motion capture in open field



Summary

The use of autonomous camera drones expands the scope of motion capture towards more flexible settings, while guaranteeing an ease of use.

Background

Motion capturing set-ups typically rely on pre-calibrated cameras, which are mounted in fixed positions. Therefore, the recorded action is limited to a predefined, fixed size area.

Invention

A swarm of drones can track a human or non-human being over large distances. At least two cameras are required to capture the image from different angles. The drones calculate and coordinate their flight paths in real-time. The drones anticipate the direction of the motion by evaluating the pose.

The prototype works with infrared diodes as markers that are attached to the joints of the tracked object. The drone cameras use optical bandwidth filters and, thus, reduce the digital image processing on the infrared signals from the markers.

Features & Benefits

- Environment independent motion capturing
- Motion capturing in challenging situations (skiing, climbing, long distance tracking)
- No calibration and no skeletal model required

Fields of Application

- Biomechanics, i.e. gait analysis
- Avatars in animated films and gaming industry
- Performance indicator for athletes

Patent Status

- Patent pending

Publication

- ACM Transactions on Graphics, Vol. 37, No. 6, Article 182, November 2018
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Technology Readiness Level



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