

Nao Motion Editor for 3D Soccer Simulation Compatible with SimSpark Physics Engine

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Abstract. To be competitive in RoboCup 3D soccer simulation league, the most important behaviors required are walking, kicking and getting up. Having a motion editor to design these behaviors appropriately, could be very handy. AIUT3D team has developed a GUI-based motion editor capable of designing arbitrary motion sequences for different types of Nao robots. It is based on UT Austin Villa base code. To best of our knowledge this is the first motion editor that is connected with SimSpark physics engine in real-time. This way the user can observe the physical influence of the designed motion sequence. Suppose a kick sequence is to be designed. The user needs to know if the robot falls down during kick execution. Live sync with the physics engine, the motion editor provides visual feedback about the designed motion via a monitor like Roboviz.

We believe our motion editor can accelerate the development of keyframe based motions. This way newer teams can build a collection of motions rapidly and have a better chance against strong experienced teams. AIUT3D motion editor is publicly available at <https://github.com/navid-hoseini/aiut3d-nao-motion-editor>.