

Course Overview

CS 448D: Character Animation
Prof. Vladlen Koltun
Stanford University

Administrativa

- TA: Sergey Levine, svlevine@stanford.edu
- Course site: <http://graphics.stanford.edu/courses/cs448-09-spring/>
- Prerequisite: CS 248 or equivalent.
- Two parts:
 - Foundations: Lectures and light assignments.
 - Research papers: Presentations and discussion.

Foundations

- Lectures:
 - Keyframing, interpolation, re-parameterization, quaternions
 - Linked structures, forward kinematics, inverse kinematics
 - Motion capture: acquisition and processing
 - Physically based character animation, the articulated body method, optimization
 - Facial animation
- Assignments:
 - Inverse kinematics
 - Motion capture

Research papers

- Some combination of presentations and discussions.
- By the end of the course you will be equipped to consume and possibly produce original research in the area.
- Expected to read a significant number of research papers and participate in the discussions.
- No exams, no project, so participation counts. (If you want project, let's talk!)

Interactive Control of Avatars Animated with Human Motion Data

Lee et al., SIGGRAPH 2002

video

Construction and optimal search of interpolated motion graphs

Safonova and Hodgins, SIGGRAPH 2007

video

Active Learning for Real-Time Motion Controllers

Cooper et al., SIGGRAPH 2007

video

Style-based Inverse Kinematics

Grochow et al., SIGGRAPH 2004

video

Synthesizing Animations of Human Manipulation Tasks

Yamane et al., SIGGRAPH 2004

video