Course Overview

CS 448D: Character Animation
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Administrativia

- 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