

NEW CLASS IE 690, Fall 2025: Gestures & Bodial Interaction Systems

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Introduction:

This course combines practically relevant methods, tools and applications related to human-systems interaction. The applications include localization and tracking of hand gestures, creating and designing gesture lexicons, hand maneuvers for surgery, robotic gestures. The used methods belong to the field of image processing, computer vision and pattern recognition.



Course Objectives:

1. Know and understand the current state-of-the-art methods for gesture interaction.
2. Develop algorithms for gesture tracking and classification.
3. Solve the "ChaLearn" or "Trauma Thompson" Gesture Challenge.



Topics covered in the class:

Color/feature based tracking, gesture design; classification and training algorithms using Generative AI.

Course Assignments:

Readings: Readings are assigned to correspond to each lecture topic.

Individual Assignments: Homework will be assigned during the semester.

Project Assignments: Students will form small teams to solve the "ChaLearn" or "Trauma Thompson" Challenge.

Course Requirements: Image processing/ computer vision, Python and good programming skills.

