

229.4005 Advanced Topics in Physics-Based Computer Vision Course Syllabus

Course objective: To provide theoretical knowledge in developing hybrid imaging systems and algorithms for computer vision based on the image formation model, with an emphasis on scattering media

The course will focus on providing background in optical design, image processing methods and computer vision for marine research, detailing the challenges of working in scattering medium and presenting the methods used today. In addition, we will review state-of-the-art methods for physics-based computer vision and deep learning.

Evaluation: 3 HW assignments and a final research project.