ReDySim

Virtual summer internship with ReDySim (Recursive Dynamic Simulator)
(June-July 2021)

BRIEF

This programme intends to help participants to learn basic kinematics and dynamics of multibody systems using Recursive Dynamics Simulator (ReDySim). ReDySim is a MATLAB-based recursive solver for dynamic analysis of robotic and multibody systems. It essentially consist of very efficient recursive inverse and forward dynamics algorithms for simulation and control of open and closed-loop multibody systems. This internship is going to be a self-propelled activity to learn and visualize dynamic behaviour of some commonly known multibody systems under the mentorship of IIT professors and their graduate students

ELIGIBILITY

Students from any college/university interested in robotics and multibody dynamics

MODALITY

This online event "Virtual summer internship with ReDySim (Recursive Dynamic Simulator)" will be in collaboration with the team of developers under the leadership of Prof. Subir K. Saha of IIT Delhi and Assoc. Prof. Suril V. Shah of IIT Jodhpur.

TEAM

Team of four members will be made having one as coordinator, and another one as co-coordinator. Teams will be made by the organizer and will be displayed on the websites **http://home.iitj.ac.in/~surilshah/redysim.php/** and **http://sksaha.com/.**

IMPORTANT DATES

➢ Date of Announcement of Call for Participation: June 3, 2021.
➢ Last date for registration: June 14, 2021.
➢ Date of announcement of the teams: June 15, 2021.
➢ Dates of Interaction: June 16, 2021.
➢ Date for video and hangout (pdf) of six slides submission: July 28, 2021 (Wednesday)
➢ Peer review marks submission: July 30, 2021 (Friday)
➢ Final Day of Competition: July 31, 2021 (Saturday)

BENEFITS OF PARTICIPANTS

➢ Opportunity to learn MATLAB.
➢ Opportunity to be familiar with different techniques of multibody dynamics.
➢ Experience to work in a team with members across the country (and possibly the World).
➢ Skill of making a good presentation.
➢ Taking first step into the vast research field of multibody dynamics.
➢ Leaning to solve multibody dynamics problems

PROGRAMME

➢ Following the team formation, the participants will be participating online for a one day webinar. on June 16, 2021.
The programme will be as follows:

➢ 12:00 Hours to 12:30 Hours: Inaugural Speech by Prof. Subir K. Saha, IIT Delhi, India
➢ 12:30 Hours to 13:00 Hours: Speech by Assoc. Prof. Suril V. Shah, IIT Jodhpur, India
➢ 13:00 Hours to 14:00 Hours: Break
➢ 14:00 Hours to 15:30 Hours: Introduction to ReDySim
➢ 15:30 Hours to 16:00 Hours: Briefing of the problem statement for the competition
➢ 16:00 Hours to 17:00 Hours: Doubt clearing of the participants about the problem statement and competition

➢ Several online interaction sessions (group-wise) with the participants will be kept for discussion on their progress and doubt clearing

➢ The teams shall be working on problem statements, for which students may refer to some study materials which will be recommended by us.

➢ Following the interaction session, participants will be asked to upload a video presentation of 3 minutes duration along with six slides. The template for first slide of the presentation will be provided to the teams.

➢ The presentation of each group will be provided to other fellow groups for evaluation.

➢ On the Final day, the video will be demonstrated to a panel for evaluation, remarks and question answer to the participants.

➢ The best team will be selected based on the question answer and video presentation session and will be awarded with a book "Introduction to Robotics by S. K. Saha".

CERTIFICATION

On successful completion of the competition, the participant names will be recorded in the ReDySim website along with the slides submitted by the teams. This activity follows a strict "No Explicit Certificate policy", ie, the participants will not be given any certificate. Their work can be claimed by referring to their project details that shall be put on the ReDySim website.

ORGANIZING TEAM

➢ Prof. Subir K. Saha, IIT Delhi, New Delhi
➢ Assoc. Prof. Suril V Shah, IIT Jodhpur, Jodhpur
➢ Asst. Prof. Paramanad Nandihal, Sister Nivedita Universit, West Bengal.
➢ Mr. Alinjar Dan , Ph.D student, IIT Delhi
➢ Mr. Saurabh Chaudhary, Ph.D student, IIT Jodhpur
➢ Mr. Arpan Ramesh Tewari, MSR student, IIT Delhi
➢ Mr. Divyesh D Fatarpekar, M.Tech student, IIT Jodhpur

REGISTRATION

Registration Fee: FREE

Online Application Link: https://forms.gle/2TZbeNnRLWmfnXtb9

Contact Email: redysim.help@gmail.com