

special course

week-1

Content

1. wikipedia on rotation representation: quaternion, euler angle, rotation matrix, axis-angle; 附件旋转表达
2. useful tools:
 - LaTeX for paper writing;
 - Github for code version control and review;

first assignment:

1. writing a library for conversion among different kinds of representations of rotation, e.g. q2r transforms a quaternion (input) to the corresponding rotation matrix. Ideal package should include (but not limited to):
 1. q2r: quaternion to rotation matrix;
 2. r2q: rotation matrix to quaternion;
 3. e2r: Euler angles to rotation matrix using ZYX order;
 4. r2e: rotation matrix to Euler angles using ZYX order;
 5. q2e: quaternion to Euler angles;
 6.
2. create a Github account and submit your implementation to your first repository.

Reading materials:

1. representation of 3D rigid motion;
2. wikipedia on Euler angles, quaternion, rotation matrix;