

NOVEMBER

25

Tuesday

CSE-188

MOBILE ROBOTICS

7.8.2020

5	6	7	1	2	3	4
12	13	14	8	9	10	11
19	20	21	15	16	17	18
26	27	28	22	23	24	25
S	M	T	W	T	F	S

9 TAUGHT BY

10 • prof. madhava Krishna

11

COURSE TOPICS

12

1. vision

1

• rigid body transformations

2

• projective geometry

3

• camera modelling

4

• camera calibration

5

• two-view geometry

6

• Stereo

• triangulation

• resection

• visual odometry

• bundle adjustment

2014

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				
M	T	W	T	F	S	S

4.8.2020

NOVEMBER

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WK 48 • 330-035

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2. state estimation

- bayesian filters
- kalman filter
- extended kalman filter
- localization and mapping using EKF.

3. path planning

- A1-style planning
- kinematics
- randomized planning
- trajectory optimization
- collision avoidance in dynamic environments.

TEXTBOOKS

1. multiple view geometry in computer vision; hartley. (2003)
2. probabilistic robotics; thrun. (2005)