Principles of Robot Autonomy I

Section 5: Point-to-Point Navigation!

Stanford University

ASL

Autonomous Systems Lab

Make Sure Repo is Up-to-date!!!

```
cd ~/catkin_ws/src/asl_turtlebot && git pull
```

Aims

- Implement navigation around obstacles on the turtlebot
- Learn how to read and understand ROS source code
- Run your homework code on the robot!

Navigate Around Obstacles

- Robots are running SLAM for mapping and localization
- We cover how SLAM works next week
- Today, we'll use the map and position estimates that we have to drive the robot around obstacles

Navigator Structure

- Follow a structure similar to homework 2
- Plan using A*
- Track using the differential flatness controller
- Park at goal using the pose controller

Important Caveats

- Only run one navigator on the real robot at a time!
- **Take turns** testing your code
- Keep the robots **on the ground**
- Be careful about the wires!
- Have someone ready to open the teleop node to take control