Workshop Lecture 1

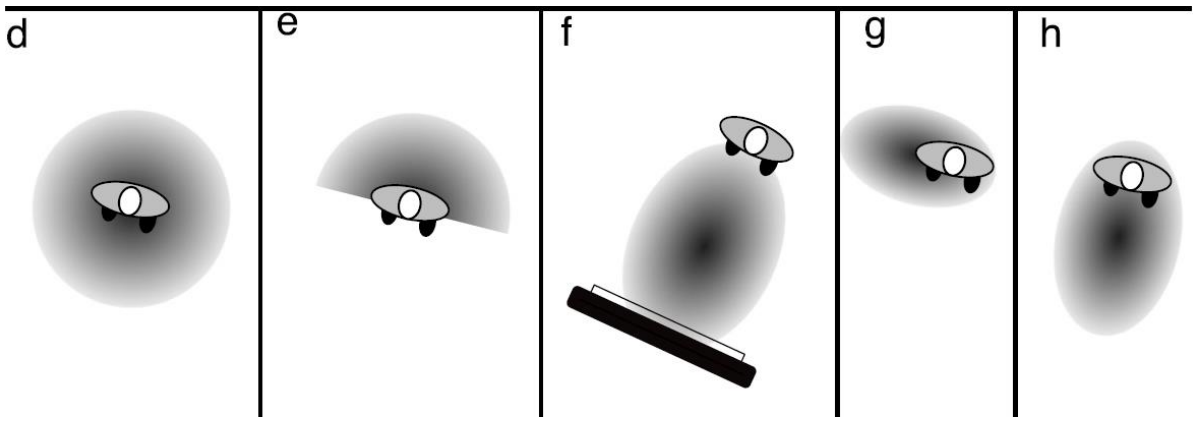
Part A: Gaussian visualisation script

In the Blackboard folder for this week, you will see the python script "`gaussian_viz.py`" under the workshop materials. Save locally, and run with (in terminal, `cd` to location of script, dependencies may need to be installed):

```
python gaussian_viz.py
```

Part B: Basic modelling of social interaction constraints

Consider the following image from (fig 9, Kruse et al, 2013), and in particular section 3.4.1 (p1737). A number of scenarios are shown: consider how each of these could be achieved by simply manipulating a basic 2D Gaussian distribution.



When considering each of these scenarios (and others that you may choose, e.g. movements within a corridor), consider furthermore the following: what distances are suitable for these situations and why; what implications of the speed of the human are there; and what further environmental dependencies may there be?

Part C: Implications for costmaps used with ROS

To continue the theme from the topic this week, consider the way in which the costmap used for navigation is constructed (http://wiki.ros.org/costmap_2d). In particular, consider the way in which the social navigation layer is parameterised (http://wiki.ros.org/social_navigation_layers) and compare with your exploration in part B, above. If you are interested, you can explore the source code for this social navigation layer at the following (C++):
http://docs.ros.org/kinetic/api/social_navigation_layers/html/annotated.html