Technion – Israel Institute of Technology



HW5

Vision Aided Navigation

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## Question 1: Factor graph, variable elimination and Bayes net. Consider a SAM problem where a robot travels through an unknown environment and captures observations using its onboard sensors. Assume the robot starts at time , with a known prior and consider motion and observation models and , respectively, where denotes the landmark. The robot moves according to given controls and observes a single landmark at time instances and .

### a: Write the joint pdf corresponding to the above scenario until time

### b: Draw the corresponding factor graph.