

EKFMONOSLAM FOR THE INTELLITABLE ROBOT

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1. INTRODUCTION

The EKFmonoSLAM uses a EKF SLAM algorithm originally designed by Joan Sola [1].

2. QUICK SET-UP

This section outlines the steps that need to be taken to set up the SLAM algorithm software in MATLAB. This set-up assumes you have MATLAB already installed.

The software for running the SLAM algorithm is publicly available online¹.

3. ANALYSIS

3.1. Processing speed considerations.

3.2. Average mahalanobis distance.

4. TRANSFER TO THE INTELLITABLE

5. NEXT STEPS

At this current stage, the algorithm has been adapted to work with a camera attached to the robot, but the robot's navigation needs to be implemented as well.

¹<https://github.com/HJackson3/intelliTable-SLAM>

REFERENCES

- [1] Joan Sola, Teresa Vidal-Calleja, Javier Civera, and José María Martínez Montiel. Impact of landmark parametrization on monocular ekf-slam with points and lines. *International journal of computer vision*, 97(3):339–368, 2012.