one_mobile_noisy_false Experiment Report

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This is a summary of the data from the one_mobile_noisy_false experiment.

Shown below is the summary of the error of all robots combined for both x and y coordinates, and also the error in total distance.

```r
summary(continuous$x_error)
```

```
##       Min.    1st Qu.     Median       Mean    3rd Qu.       Max.
## -4.567e-02 -4.168e-03  5.890e-06  8.166e-05  4.521e-03  4.113e-02
```

```r
summary(continuous$y_error)
```

```
##       Min.    1st Qu.     Median       Mean    3rd Qu.       Max.
## -4.375e-02 -3.865e-03  1.910e-06  1.546e-04  4.465e-03  4.045e-02
```

```r
summary(continuous$dist_error)
```

```
##      Min.   1st Qu.    Median      Mean   3rd Qu.      Max.
## 1.200e-07 9.688e-04 1.073e-02 1.042e-02 1.718e-02 4.655e-02
```

```r
summary(discrete$x_error)
```

```
##       Min.    1st Qu.     Median       Mean    3rd Qu.       Max.
## -0.4373000 -0.0154000 -0.0000035  0.0001690  0.0162000  0.4268000
```

```r
summary(discrete$y_error)
```

```
##       Min.    1st Qu.     Median       Mean    3rd Qu.       Max.
## -0.4337000 -0.0159300  0.0000000  0.0007653  0.0167600  0.5221000
```

```r
summary(discrete$dist_error)
```
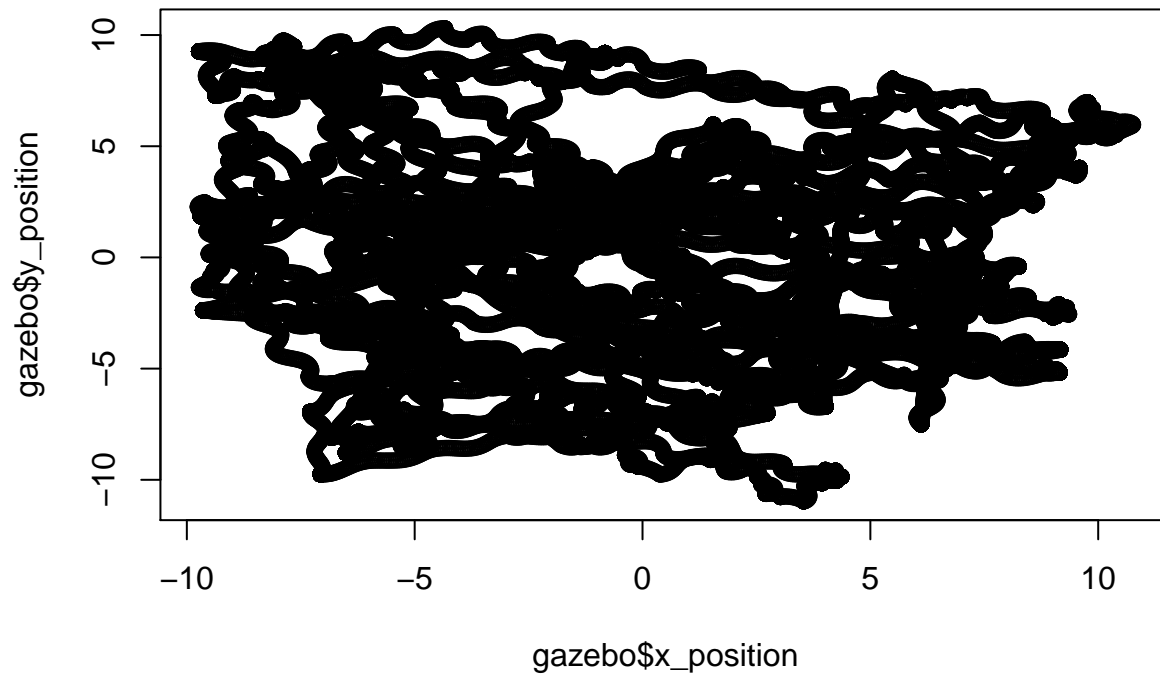
```
##     Min.  1st Qu.   Median     Mean  3rd Qu.     Max.
## 0.000000 0.003078 0.040090 0.045840 0.051380 0.523700
```

```r
if (params$robot >= 2) {
    summary(external_data_averages)
}
```

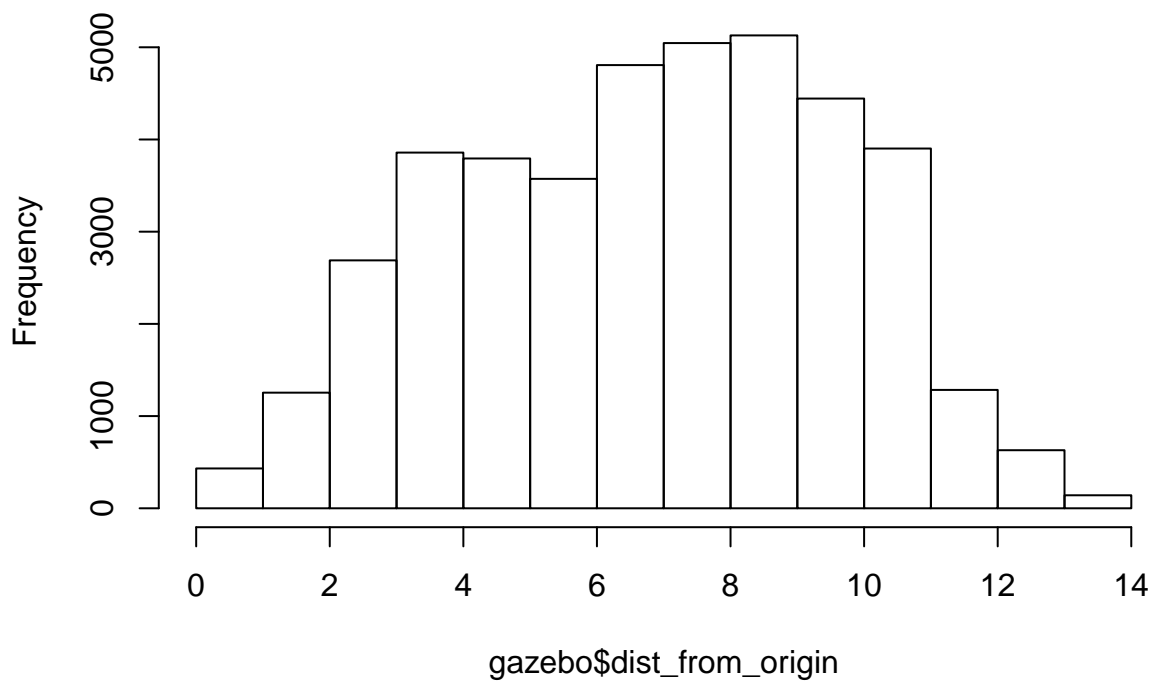Shown below are plots representing the robot's motion and error over time.

```r
plot(gazebo$x_position, gazebo$y_position,
     main = "Ground truth visited locations of robots")
```

Ground truth visited locations of robots
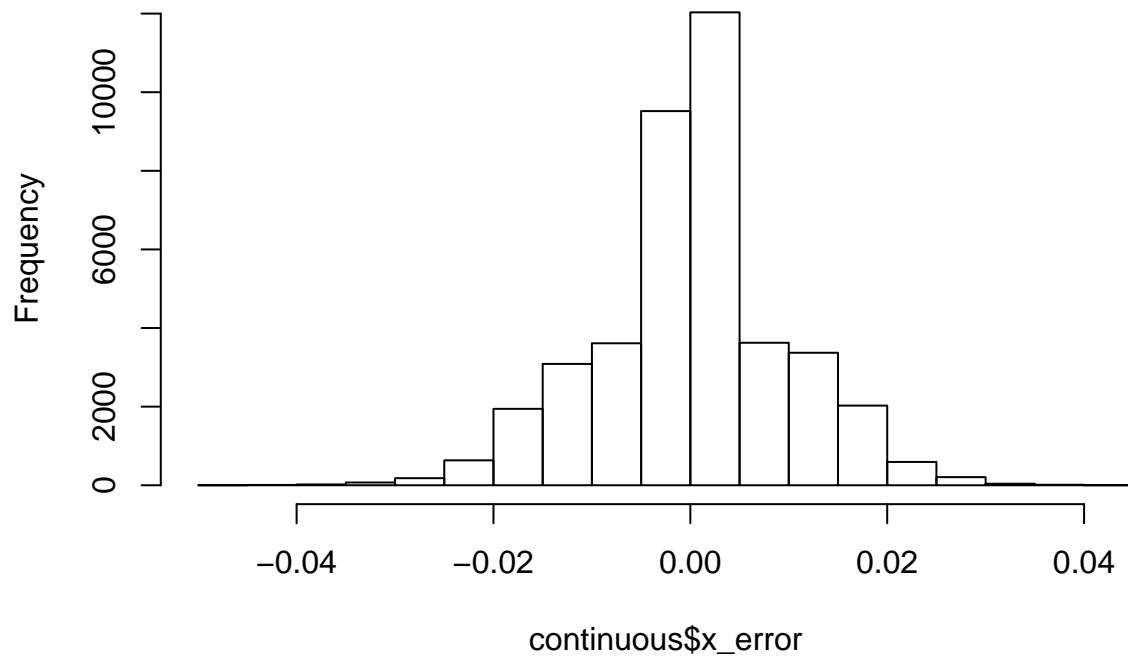


```r
hist(gazebo$dist_from_origin,
     main = "Distance from origin vs. time")
```
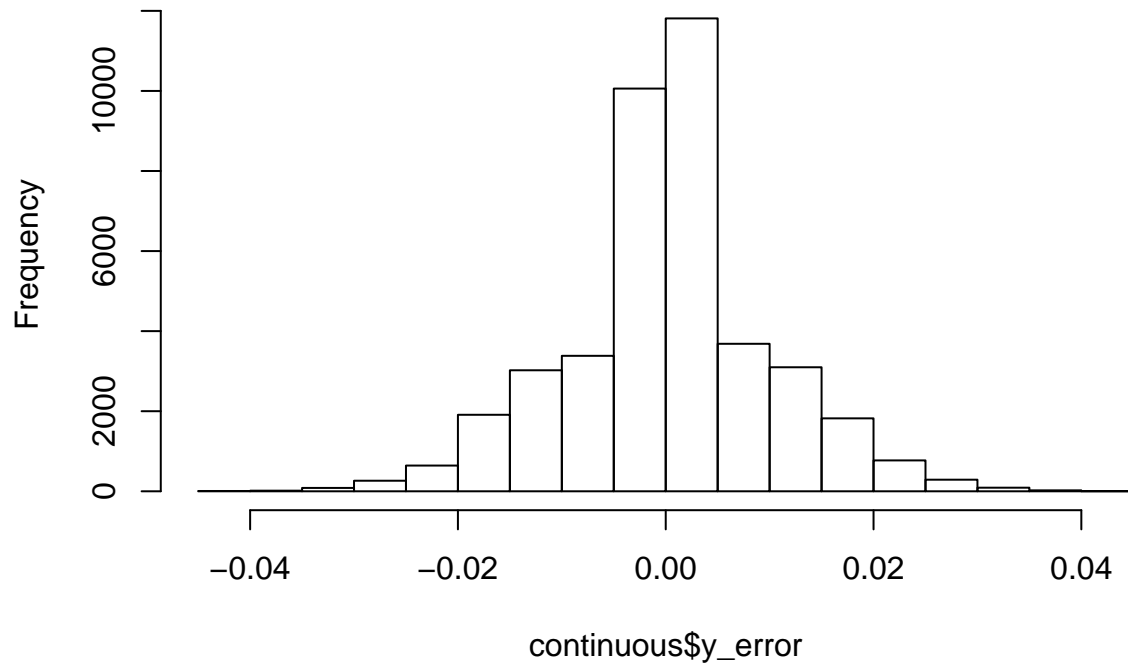
Distance from origin vs. time


```r
hist(continuous$x_error,
     main = "Continuous x_error")
```
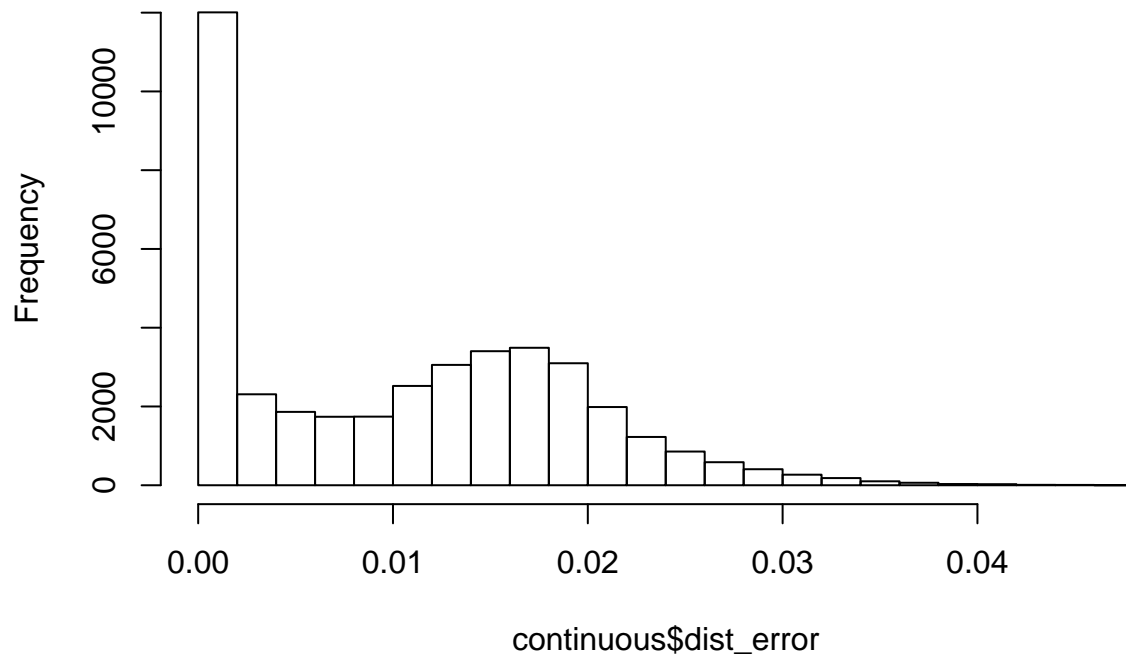
Continuous x_error


```r
hist(continuous$y_error,
     main = "Continuous y_error")
```
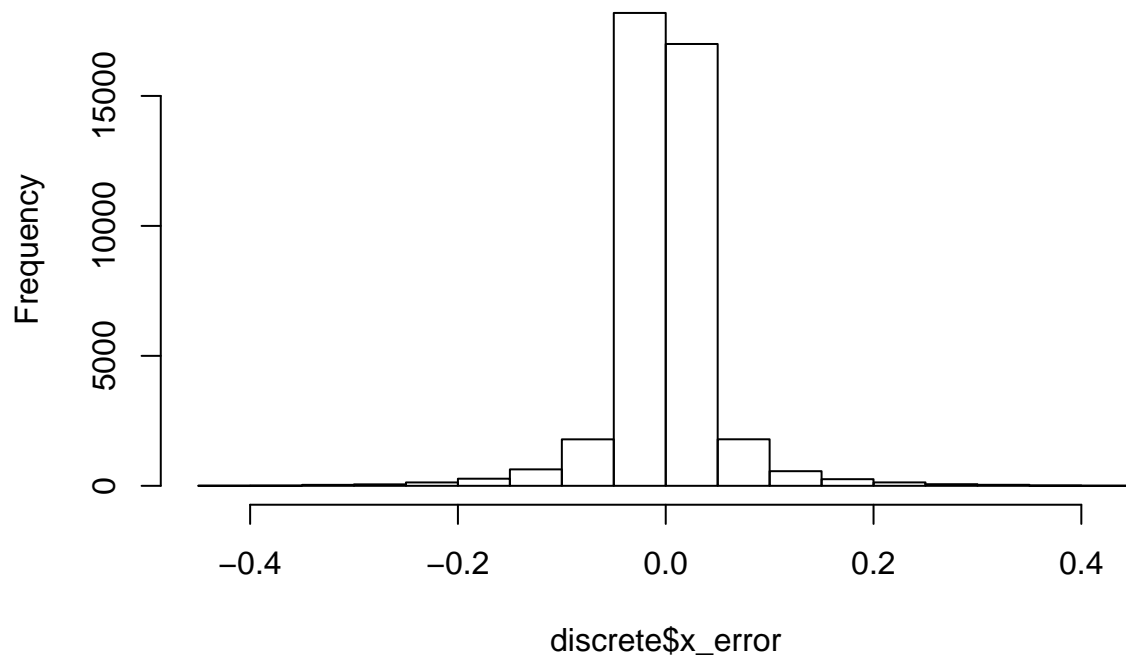
Continuous y_error


```r
hist(continuous$dist_error,
     main = "Continuous total distance error")
```
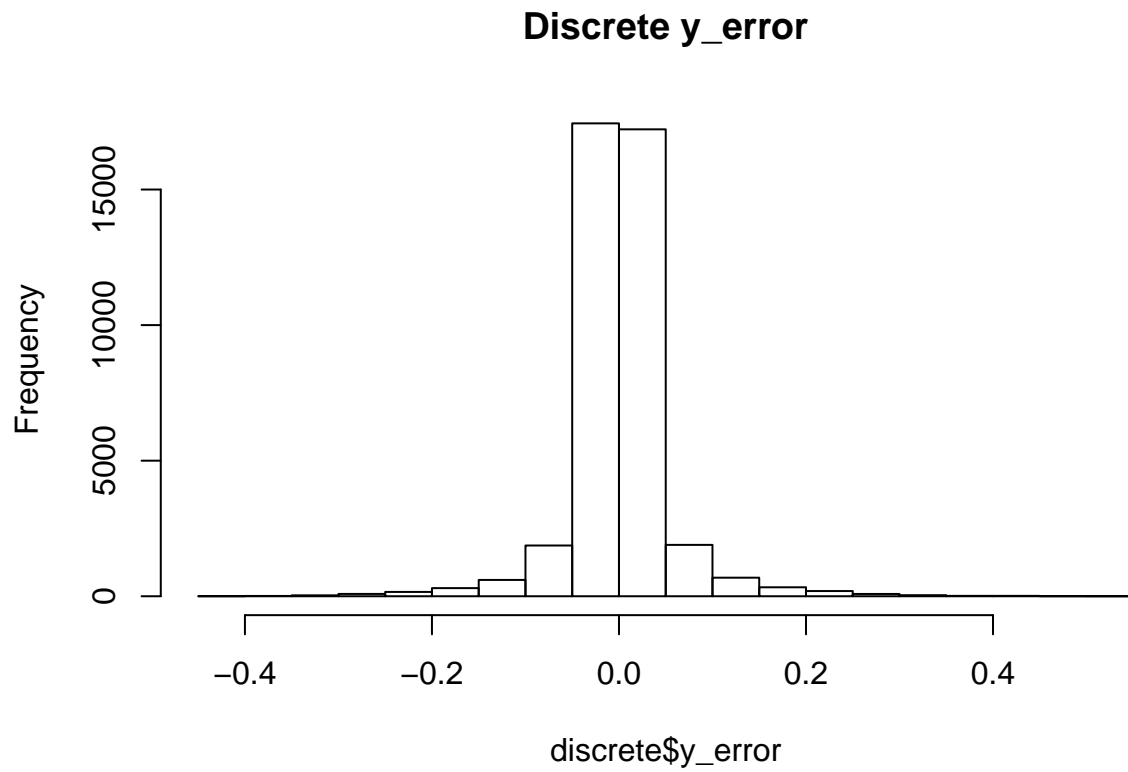
Continuous total distance error


```r
hist(discrete$x_error,
     main = "Discrete x_error")
```

Discrete x_error


```r
hist(discrete$y_error,
     main = "Discrete y_error")
```

Discrete y_error


```
hist (discrete$dist_error,
     main = "Discrete total distance error")
```

Discrete total distance error