Initial Location

IMU = Accel + Gyro + Mag

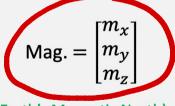Algorithm

3D Trajectory

Map

Zoom into IMU data:

$$\text{Accel.} = \begin{bmatrix} a_x \\ a_y \\ a_z \end{bmatrix}$$

(Linear Acceleration)

$$\text{Gyro.} = \begin{bmatrix} g_x \\ g_y \\ g_z \end{bmatrix}$$

(Angular Velocity)

Delta rotation in unit time

$$\text{Mag.} = \begin{bmatrix} m_x \\ m_y \\ m_z \end{bmatrix}$$

(Earth's Magnetic North)