Gabriel Taylor

Professor: Dr. Jiang Li

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Indoor Robot Localization

Robots are becoming a more and more prevalent part of people’s lives as they move forward into the future. Some robots are even now relying on AI in order to become more useful over time. There are robots that the average person thinks about every day, Roombas, Luna rovers, and autonomous pool cleaners. There are also kinds of Robots that are hardly thought about since they are not used by the general public, like UAVs, Israel’s Iron Dome, and the Phalanx CIWS automated machine gun turret. Robots like the Roomba and autonomous pool cleaners do not typically use GPS. This is because indoor robot localization is more effective. If they don’t use GPS, what do they use? It varies from robot to robot

Knowing about the first robot is highly important to understanding how robot localization works. If it is not known how the first robot stumbled and bumbled around, then it will not be easy to understand the sophisticated ways modern robots operate. Understanding the methods of the fumbling comes second in importance. If understanding old robots is important to understanding new robots, then understanding the development of old movement is also important to understanding the development of modern movement.

The robots that came after are equally important for similar reasons. Like with the first robot, these robots would have probably stumbled around a lot, too. When it comes to the development of technology, nothing is perfected overnight. In most cases, things do start out fast, releasing version 1.1, then 1.2, 1.3, and so forth. However, it often takes years to improve a piece of technology so much that it can officially go from 1.0 to 2.0. While it is not a piece of technology, it is a form of software; Minecraft took approximately 10 years to go from 1.19 to 1.2.1.

After reviewing the distant past, knowing what has happened in the recent past is just as important. Most people in this day and age use the internet through their phones, so it would be hard for them not to have heard about Roombas. When people talk about robots, there are some who are afraid of an uprising. Roombas will not be much of a threat, unless you trip over one when you are not watching where you are going. But if people take the time to analyze the localization methods of Roombas, other indoor robot localization methods will be easier to understand and predict.

Amazon warehouse robots are a different story altogether. . When it was first introduced. Who introduced it. How it finds its way. Why finding it's way is so important(timelyness and safety concerns)

Dog robot. When it was first introduced. Who introduced it. How it finds its way.

Movement improvements and how that is affected by Localization. Why being able to find its way is so important(military readyness)

Elon musk robot. When it was first introduced. How it finds its way.

Works cited

* Roomba indoor navigation <https://www.thezebra.com/resources/home/how-roomba-works/#:~:text=While%20we%20use%20our%20eyes,as%20an%20inspiration%20for%20Roomba>.
* Minecraft
  + 1.19 Developmenthttps://[minecraft.fandom.com/wiki/Java\_Edition\_1.19#:~:text=1.19%2C%20the%20first%20release%20of,only%20in%20these%20new%20biomes](http://minecraft.fandom.com/wiki/Java_Edition_1.19#:~:text=1.19%2C%20the%20first%20release%20of,only%20in%20these%20new%20biomes).
  + https://minecraft.wiki/w/Java\_Edition\_1.2.1#:~:text=1.2.1%20is%20a%20major%20update%20to%20Java,wooden%20bridges%20in%20mineshafts%2C%20and%20desert%20wells.

Writing an abstract

An abstract is a condensed version of a longer piece of writing that highlights the major

points covered, concisely describes the content and scope of the writing, and reviews the

writing's contents in abbreviated form.

Your abstract should be one to two pages in length, double spaced and use MLA. Include

all references you have used or plan on using. Title the references appropriately (have

used in this abstract, Not yet used but will in the paper).

You are not writing a true abstract since usually the abstract is written after the paper is

written. However, you should have completed substantial portion of your research to be

able to write a successful abstract. The abstract is in complete sentence and paragraph

form (outlines are not acceptable). It should contain the following information:

o

Communicate specific information from the paper.

o

Include the purpose, methods, and scope of the paper.

o

Provide the paper's results, conclusions, and recommendations.

o

Be short (but not too short). Usually informative abstracts are 10% or less

of the length of the original paper.

o

Allow readers to decide whether they want to read the paper.

Why are abstracts so important?

The practice of using key words in an abstract is vital because of today's electronic

information retrieval systems. Titles and abstracts are filed electronically, and key words

are put in electronic storage. When people search for information, they enter key words

related to the subject, and the computer prints out the titles of articles, papers, and reports

containing those key words. Thus, an abstract must contain key words about what is

essential in an article, paper, or report so that someone else can retrieve information from

it.

Qualities of a Good Abstract

An effective abstract has the following qualities:

•

Uses one or more well developed paragraphs: these are unified, coherent, concise,

and able to stand alone.

•

Uses an introduction/body/conclusion structure which presents the report's

purpose, results, conclusions, and recommendations in that order.

•

Follows strictly the chronology of the report.

•

Provides logical connections (or transitions) between the information included.

•

Adds

no

new information, but simply summarizes the report.

•

Is understandable to a wide audience.