

Robot Teknolojisine Giriş BLM4830



Öğr. Grv. Furkan ÇAKMAK

Ders İşleyiş Bilgilendirmesi

BLM4830
Robot
Teknolojisine
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Hafta 1

- Teorik Ders Saatleri: **Çarşamba 14:00 - 16:50**
- Derslerin tamamı yüzyüze ortamda olacak.
- Duyurular için: <https://avesis.yildiz.edu.tr/fcakmak/dokumanlar>
 - OBS Toplu Mesaj Sistemi
- Google Classroom Sınıf Kodu: **imzsgo2**
 - Dersle ilgili sorularınızı Classroom üzerinden duvar paylaşımı yaparak sorabilirsiniz.
- Zoom Personal Room:
 - <https://us04web.zoom.us/j/3752287039?pwd=TTFKNittZWJTUEhREovckl0VTYyUT09>
 - Meeting ID: 375 228 7039
 - Passcode: 5AXMNd
- Dersle ilgili soru ve danışmalarınız için EN AZ 1 (BİR) GÜN ÖNCEDEN linkten randevu alınız.
 - <https://fcakmak.simplybook.it/v2/>
 - Mail ile randevu verilmeyecektir.
 - Alınan randevu saatinde lütfen yukarıda verilen Zoom odasında bulununuz.

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Ders Tanıtım Formu ve Konular

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Hafta	Tarih	Konular
1	2.03.2022	Ders Tanıtımı, ROS ve Platform Tanıtımı, Robot Çeşitleri ve Robotik Konuları Başlangıcı
2	9.03.2022	Kinematik - Genel Tanımlar - Diferansiyel Sürürlü Robot İçin Hesaplama Örnekleri
3	16.03.2022	Sensörler - Çeşitleri ve Çalışma Sistem atikleri ve Uygulamaları
4	23.03.2022	Odometri ve Lokalizasyon Kavramları
5	30.03.2022	Uygulama 1 (Laboratuvar)
6	6.04.2022	Haritalama Yöntemleri ve Uygulamaları
7	13.04.2022	Navigasyon ve Keşif Yaklaşımları ve Uygulamaları (Ödev Teslimi)
8	20.04.2022	Ara Sınav
9	27.04.2022	Uygulama 2 (Laboratuvar)
10	4.05.2022	Tatil - Ramazan Bayramı Arifesi
11	11.05.2022	Robot Üzerinden Görüntü İşleme Teknikleri
12	18.05.2022	Robot Üzerinden Görüntü İşleme Teknikleri (Devam)
13	25.05.2022	3B Haritalama Yöntemleri
14	1.06.2022	Proje Sunumları

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Ders Tanıtım Formu - Ders Kitabı

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	Kitaplar
1	Introduction to Autonomous Mobile Robots. Roland Siegwart and Illah R. Nourbakhsh. A Bradford Book. The MIT Press.
2	A Gentle Introduction to ROS, JasonM. O'Kane

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Ders Tanıtım Formu - Değerlendirme

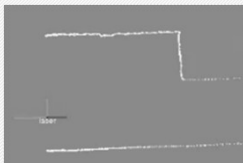
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Başarı Değerlendirme Sistemi	Yöntem	Adedi	Etki Oranı (%)
	Ara Sınavlar	1	30
	Kısa Sınavlar	-	-
	Ödevler	1	10
	Projeler	1	20
	Dönem Ödevi	-	-
	Laboratuvar	-	-
	Diğer	-	-
	Final Sınavı	1	40

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Ders Boyunca Neler Öğreneceğiz?

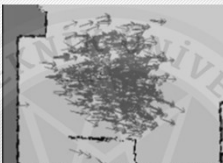
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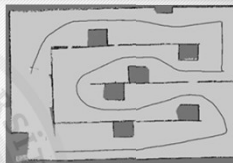
Odometri



Lokalizasyon Takibi



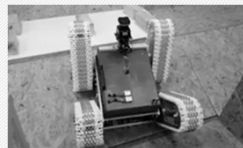
Lokelize Olma



Haritalama



Kapsamlı Haritalama



Paletli Haritalama



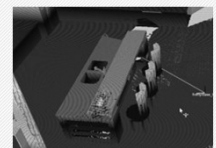
Navigasyon



Keşif

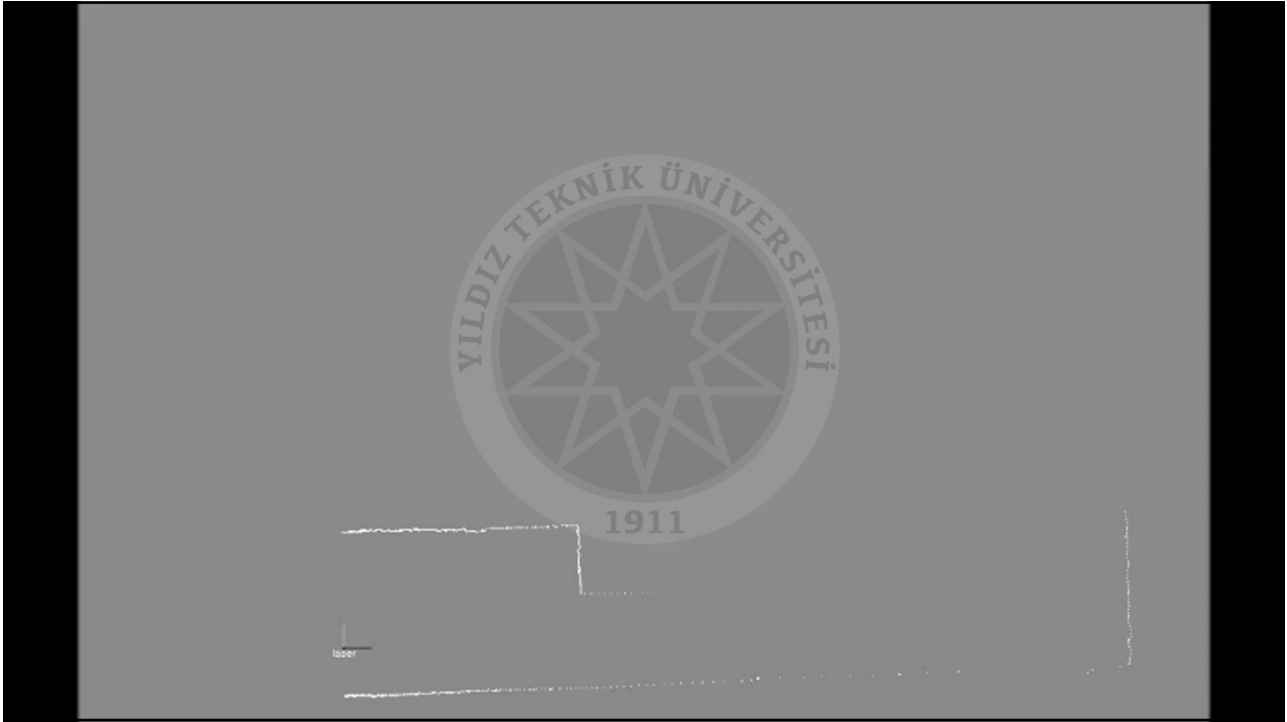


Termal Keşif



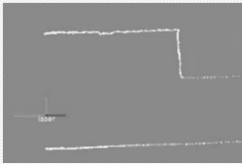
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Ders Boyunca Neler Öğreneceğiz?

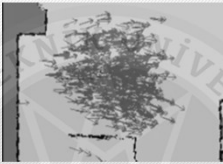
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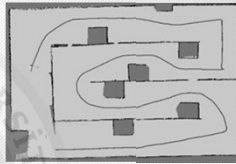
Odometri



Lokalizasyon Takibi



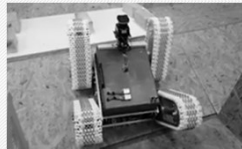
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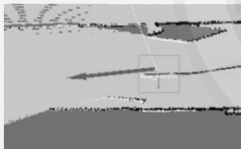
Haritalama



Kapsamlı Haritalama



Paletli Haritalama



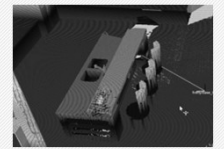
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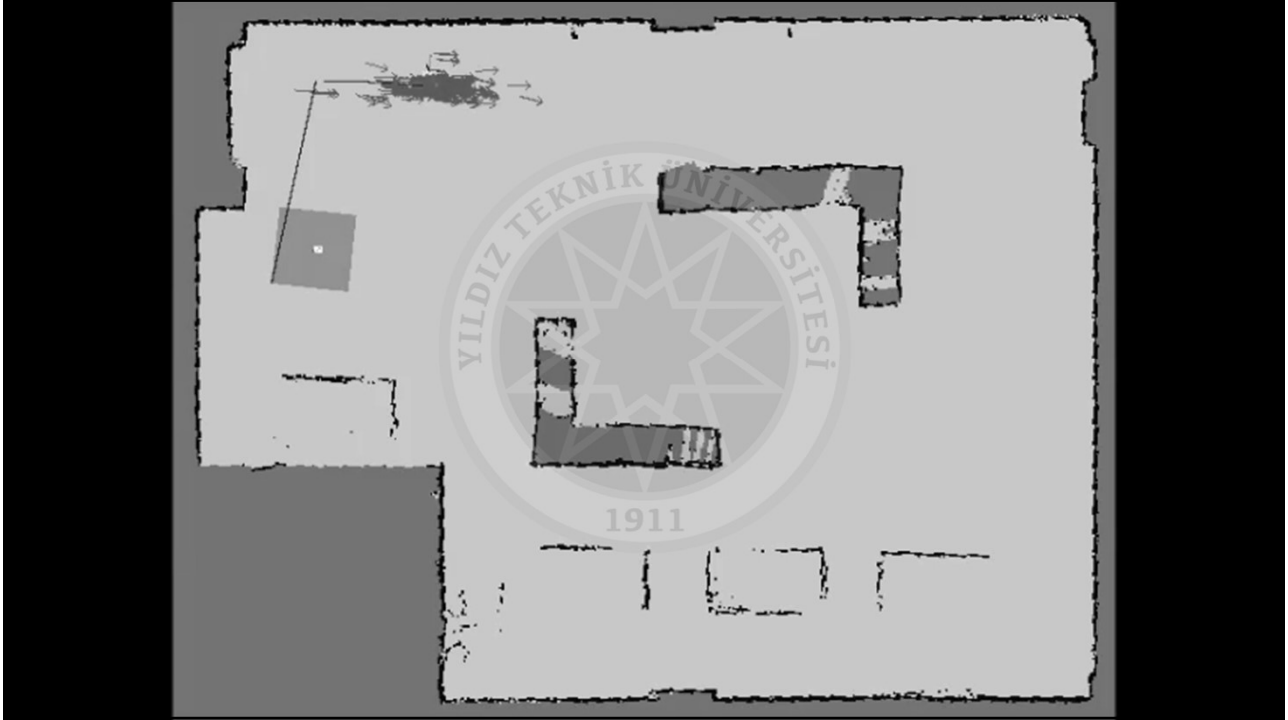
Keşif



Termal Keşif



3B Haritalama



Ders Boyunca Neler Öğreneceğiz?

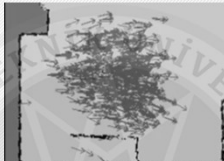
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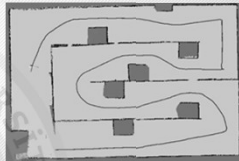
Odometri



Lokalizasyon Takibi



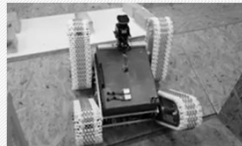
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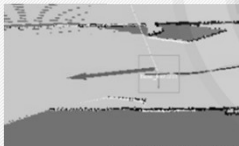
Haritalama



Kapsamlı Haritalama



Paletli Haritalama



Navigasyon



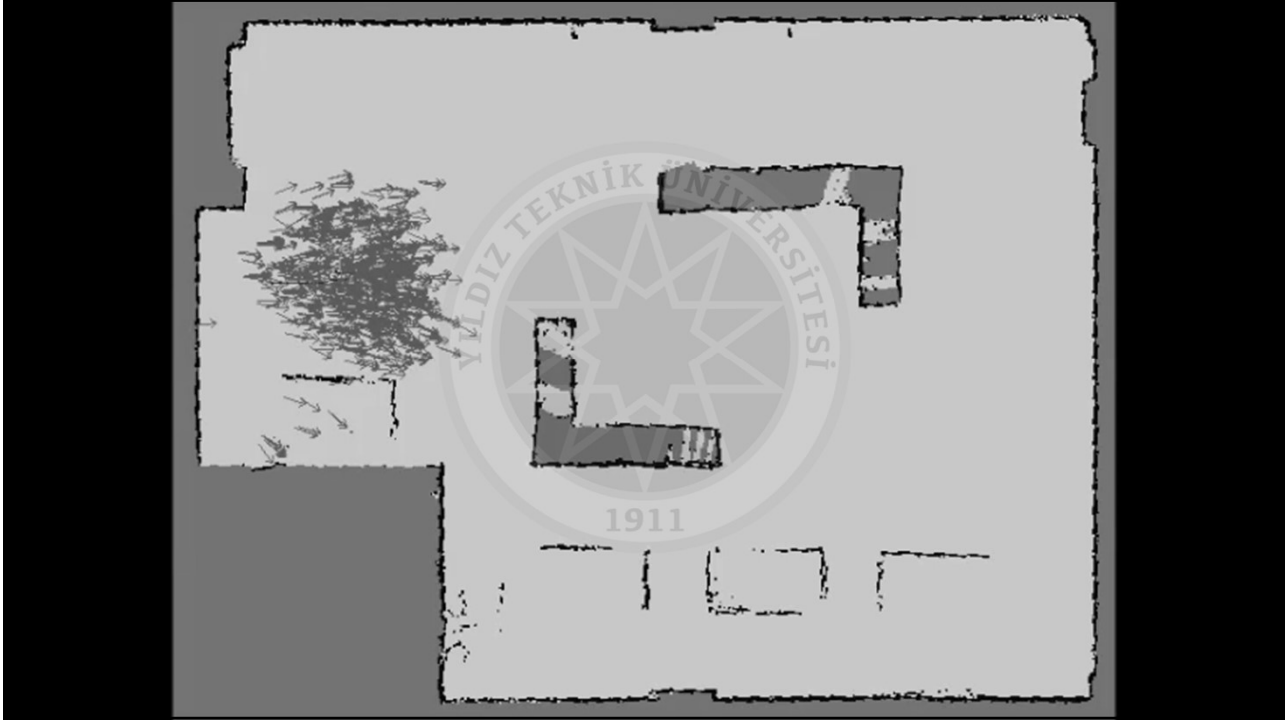
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Termal Keşif

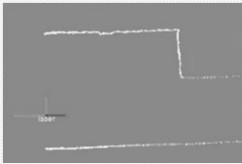


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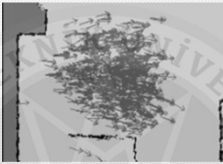
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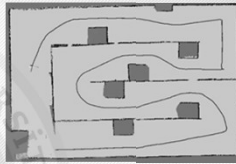
Odometri



Lokalizasyon Takibi



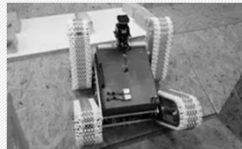
Lokelize Olma



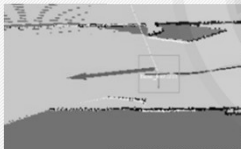
Haritalama



Kapsamlı Haritalama



Paletli Haritalama



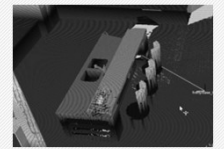
Navigasyon



Keşif



Termal Keşif

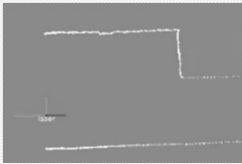


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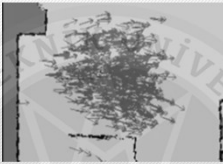
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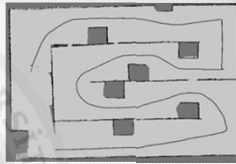
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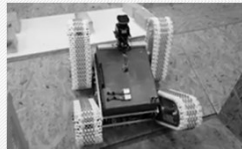
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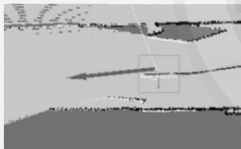
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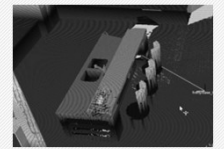
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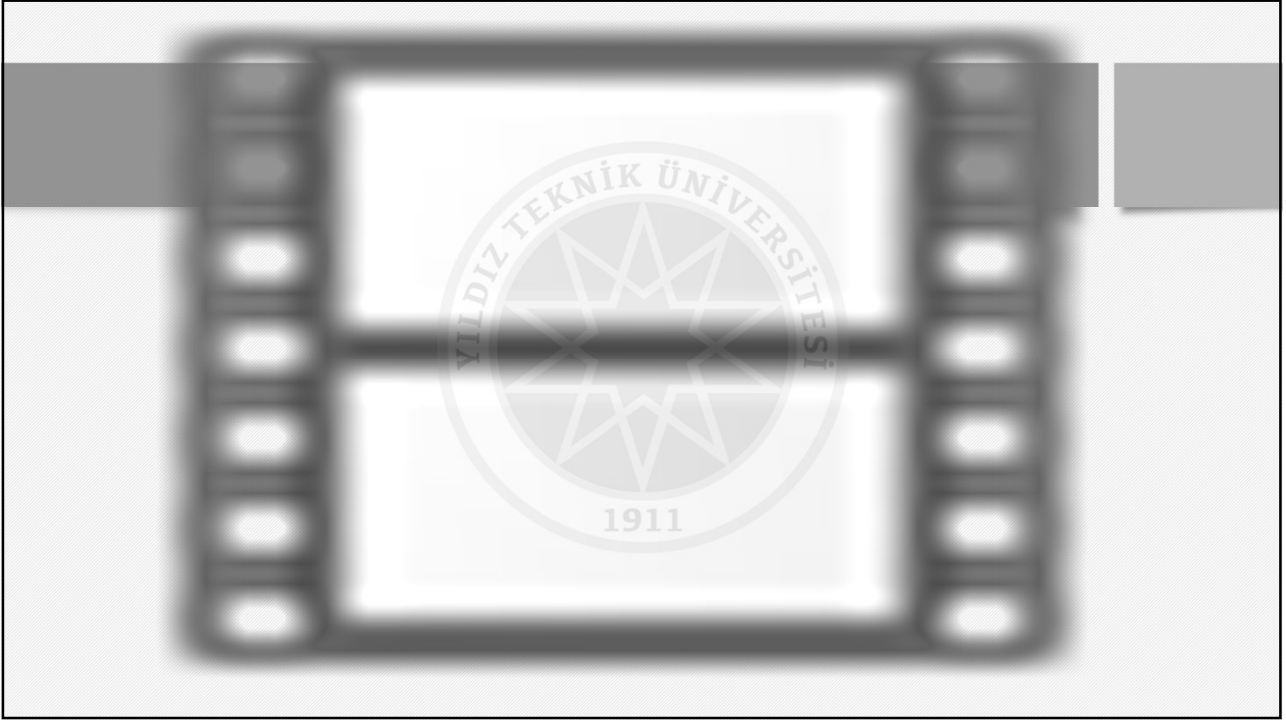
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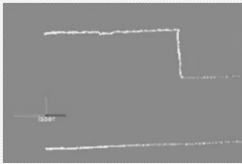


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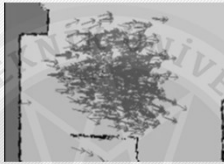
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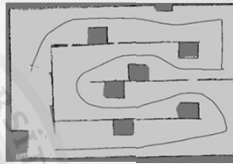
Odometri



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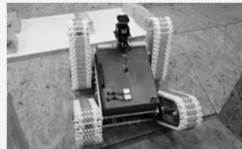
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Haritalama



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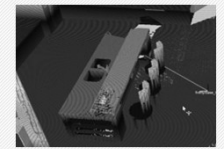
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Keşif



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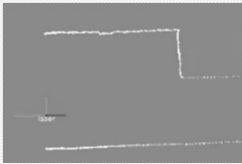


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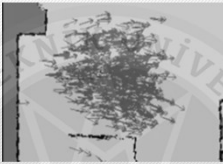
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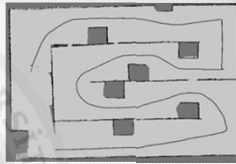
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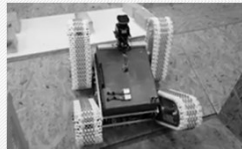
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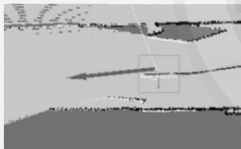
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Paletli Haritalama



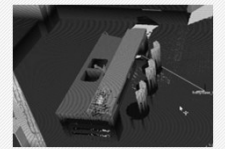
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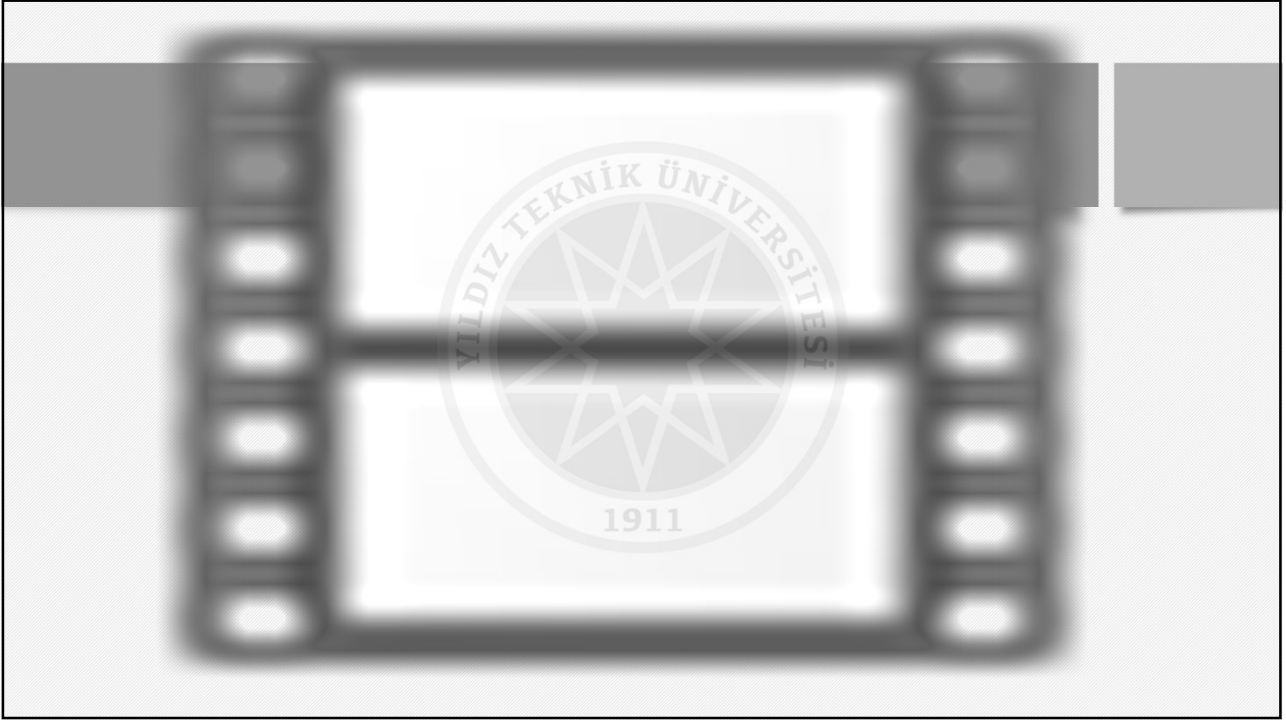
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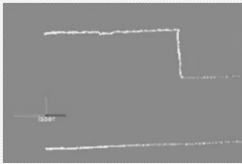


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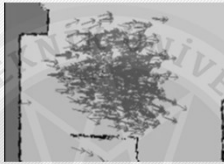
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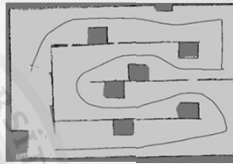
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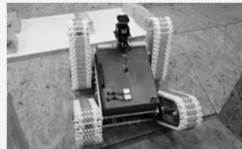
Lokelize Olma



Haritalama



Kapsamlı Haritalama



Paletli Haritalama



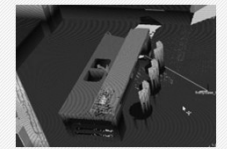
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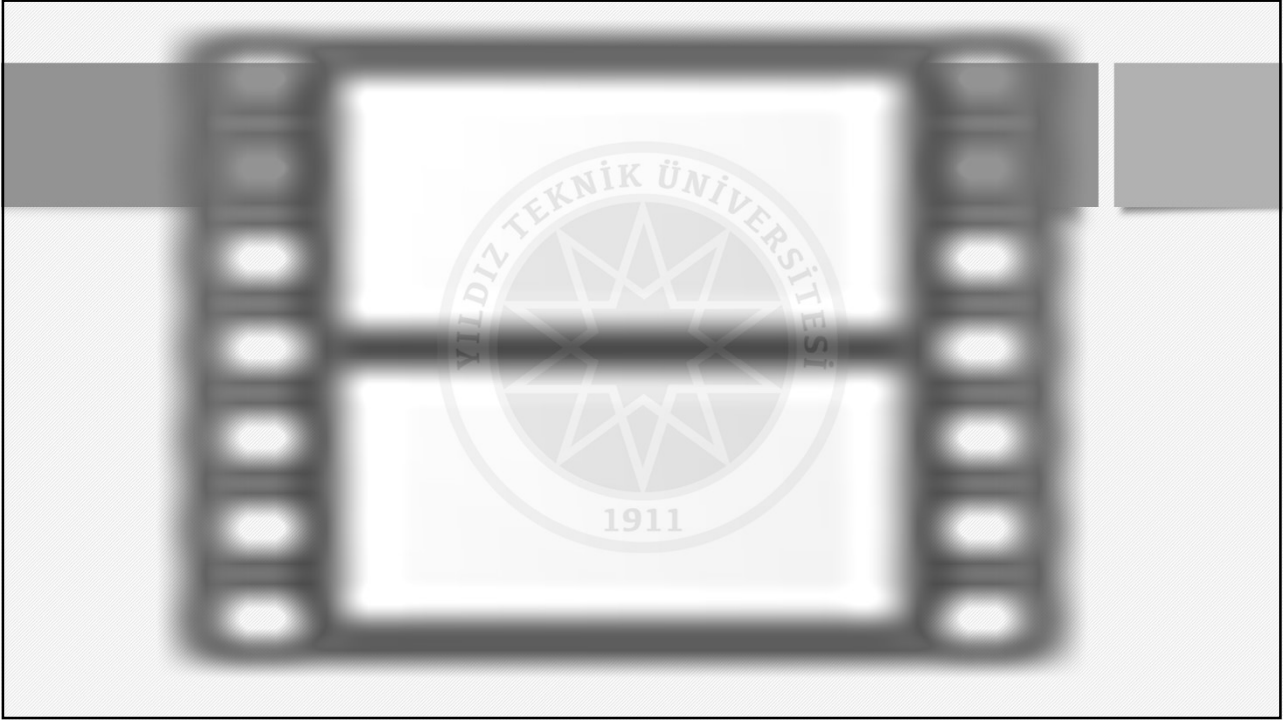
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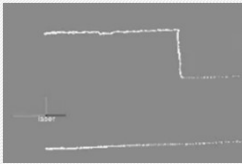


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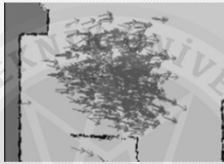
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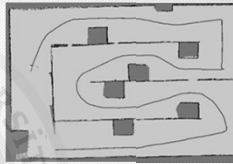
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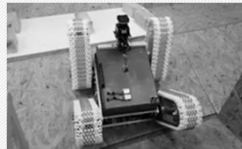
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Haritalama



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Paletli Haritalama



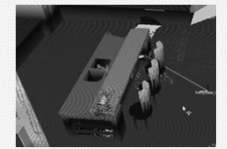
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Keşif



Termal Keşif

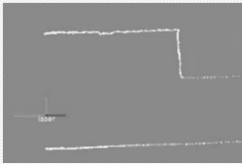


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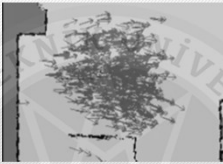
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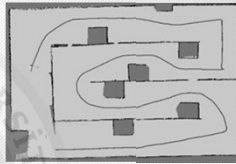
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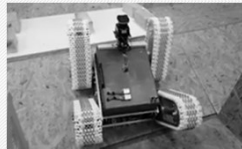
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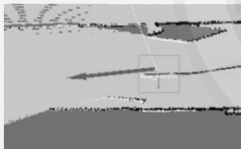
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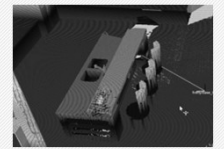
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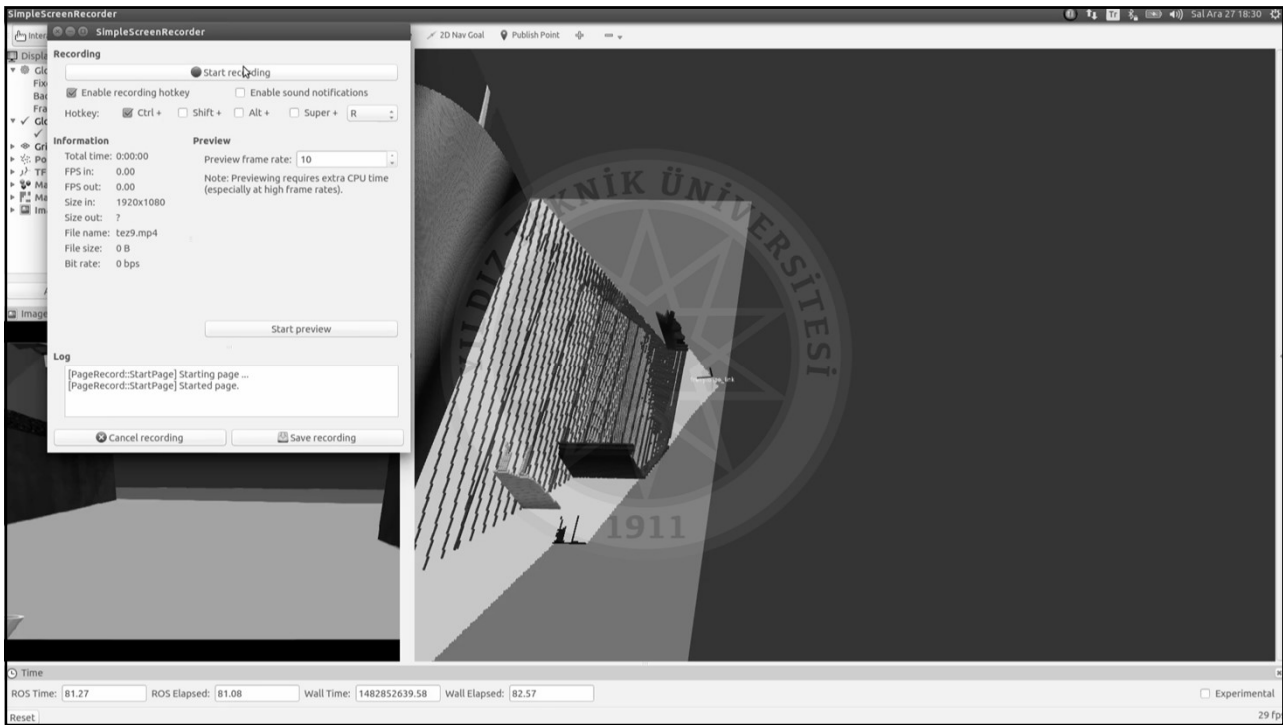
Keşif



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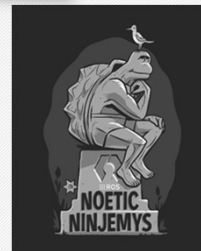


Geliştirme Ortalamı

- Ubuntu 20.04 Focal
- ROS Noetic Ninjemys
- C++
- Python

ROS/ Tutorials

ROS



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ROS Ortam Robotları

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- <https://robots.ros.org/>



Husky



P3AT

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Sabırla Dinlediğiniz İçin Teşekkürler

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