



WE INNOVATE

Product design Graduation Project جامعة الأميرة نورة بنت عبد الرحمن كلية التصاميم و الفنون

إن لدينا عقليات سعودية مُبهِرة ،و رائعة جدًا و مُشرقة ،خاصةً في جيل الشباب مطاقة قوية ،ثقافة عالية احترافية جيدة و قوية جدًا

صاحب السمو الملكي الأمير محمد بن سلمان – حفظه الله

تصميم المنتجات Cad-dpd@pnu.edu.sa

#WE\_INNOVATE



نبتكر لكي نجعل العالم أفضل.

شـفف الابـتكــار يـكمـن فــي العقول النيرة بالمعرفة والتساؤلات، ورغـبة قـويـة لابـتكـار مـنتجات فريحة مـن نـوعـها ببصمة سعودية معاصرة

نبتكر لــنعد مــجتمع قادر على خلق الفرص ومتجاوز للتحديات الأكــثر حــاجــة حــول العالم، وذلك لصناعة منتجات تكشف عـن عـمق الـفكر الإبــداعــي لــلكوادر الــوطــنية ، ولـتعزيز دور المصممة السعودية

نحن هنا لكي ندعم مصمماتنا في رحلة التصميم بأكملها، حيث نرافقهم على الطريق خطوة بخطوة. سواءً من حيث المنتجات، أو الأبحاث، أو التجهيزات، فهم جزء من لوحة جميلة لا تكتمل الا بالعمل مع فريق رائع من أعضاء الهيئة التعليمية والإدارية بالقسم، وأيضًا ببعضهم البعض وفقاً لرؤية المملكة

أسال الله أن تكون بداية لمزيد من التفوق والإنجاز.

د. غادة بنت عبدالعزيز بن دهيم رئيسة قسم تصميم المنتجات

### Introduction

The Innovation Exhibition represents a variety of ideas in various fields of product design that reflect the ideas of a generation of young Saudi women in solving the problems of society in the form of devices and products provided by female graduates of the Product Design Department 1442 (second semester), some of which depend on artificial intelligence and the other depends on the exploitation of New and renewed energies, the ideas were characterized by simplicity, contemporary and feasibility within the already existing Saudi factories. The exhibition reflects the Kingdom's ambitious vision to create and qualify a creative generation that establishes an industrial society that covers local needs of products and looks forward to reaching the world, with the goal of investing in human minds.

Prof. Safaa Hanafy Dr . Alaa Emad After years spent with diligence, creativity, and staying up for nights, we've always aimed to be different and unique, and this is our motto. So, here we are today, reaching the end of our journey, but starting a new beginning to a bright future full of creativity and productivity that hope-fully will serve the world. We're honored to be Princess Nourah bint Ab-dulrahman's product design graduates, and we would like to extend our sincere gratitude to everyone who supported us from scratch till the last day of our journey especially our elite professors.

Shahad Ali Alkhalifah	8
Yasmine AlRumaih	12
Maha mohmmed al.aqil	16
Ibtisam Sultan Althonyan	20
Sundus Almohaimeed	24
Maha Alhamdan	28
Noura Almoghiyra	32
Shada omar alrashdi	36
Shatha Saad Aldhuayan	40
Shumokh Yaser ALhuthail	44
Maha Ahmed Al-Zahrani	48
Nada Majid Al-Bitar	52
Latifa Fahd Al-Muharj	56
Lama Salem ALkatheri	60
Halah Aalqeel	64
Mariam Mubark Alwdman	68
Norah Abdullah Al-Ajmi	72

Asma Arar Shuaitan Al-Dossar	76
Rola Khalid Almuqbl	80
Ghaida Mohammed Albeyahi	84
Lamia Abdel Rahman Al-Shabanat	88
Nejood Fahad Alghtani	92
Alanoud Bin Basais	96
Amal Amer	100
Lolwah Alomair	104
Luluah Alfunaysan	108
Sarah AlSaeed	112
Roba alfadhel	116
Hessa AlSaleh	120
Raneem Alsemari	124
Raghad Alturki	128
Zahrah khalban	132
Afaf AlShahrani	136

### Shahad Ali Alkhalifah

Locust extermination plane and suction use as fertilizer

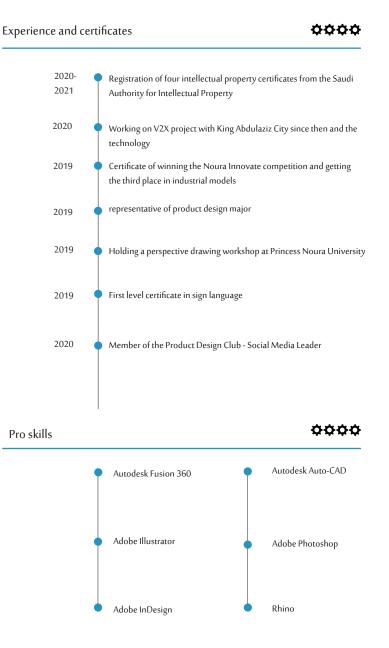
### <u>About</u>

The plane is operated to fly and controlled by application, a natural insecticide is sprayed in addition to flying at large distances and spraying pesticides in record time, in addition to the locust suction device that contains blades for chopping locusts and using it as fertilizer for the environment.









## Yasmine Al-Rumaih

Polaris bus

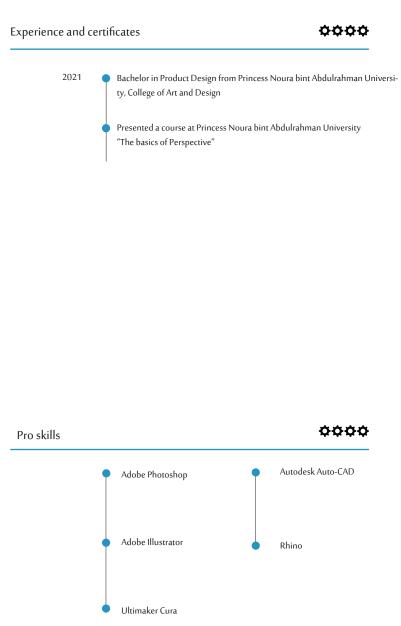
### <u>About</u>

An electric powered bus to reduce environmental pollution resulting from carbon dioxide emissions, designed to suit the environment of the Kingdom of Saudi Arabia, operating with driverless autonomous driving systems, containing insulating glass and strong light emitted from the sun's rays. The bus is characterized by high safety and the ability to protect from shocks.







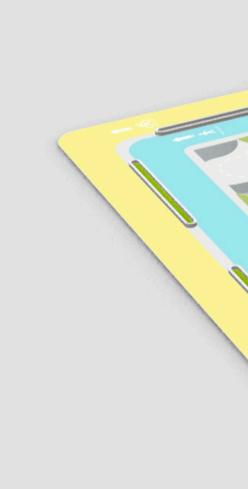


## Maha mohmmed al.aq

Designing children>s games in public parks

### <u>About</u>

Developing fun and modern design solutions in garde the element of attraction, to help children release | their mental and physical health, and develop their |





#### Front view

Designing children's games in public parks

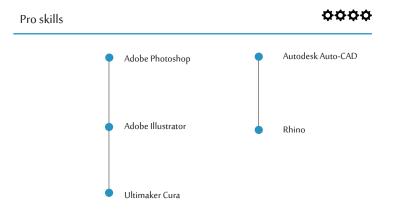




#### Experience and certificates

#### 





## Ibtisam Sultan Althonyan

Eye for the sea

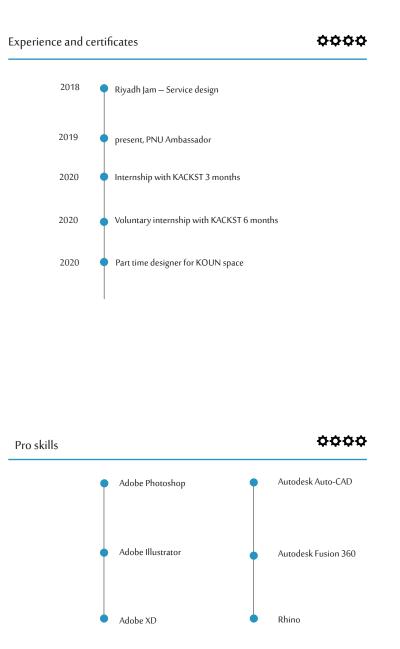
### <u>About</u>

A boat that has been creatively redesigned, aims to change the concept of marine activities and reformulate it with a new concept, such as the possibility of changing function and creating other new function for the product.



**Isometric view** Perspective view of the boat STARLING ST

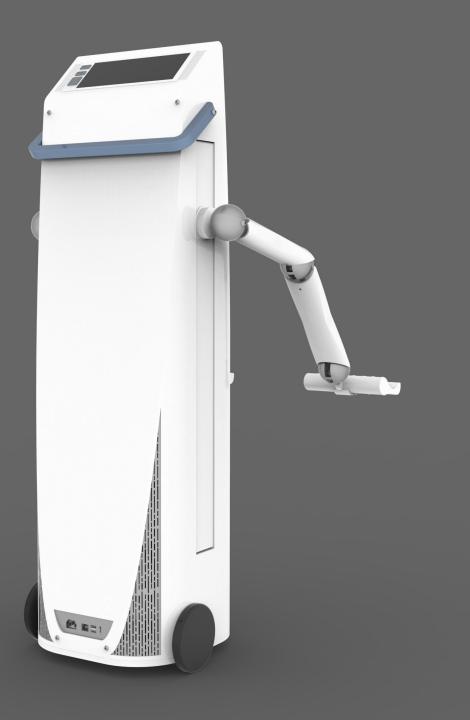




# Sundus Almohaimeed

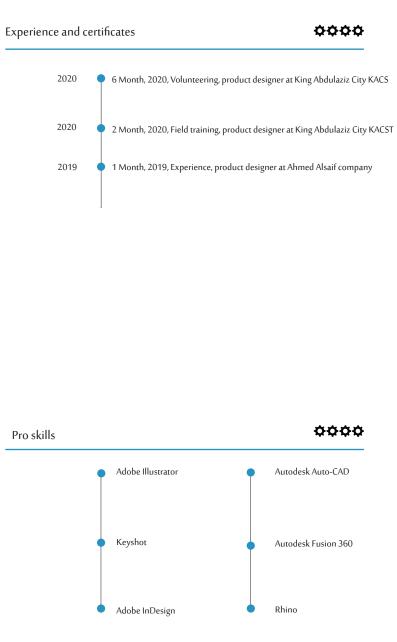
### <u>About</u>

Patient mobility robot to avoid bed sores. And doing exercises to avoid muscle atrophy. More than that, to maintain a healthy breathing It consists of two arms that work in a pivoting way that works as an alternative to the work of nurses in helping the patient to move on both sides, and it can save human energy.









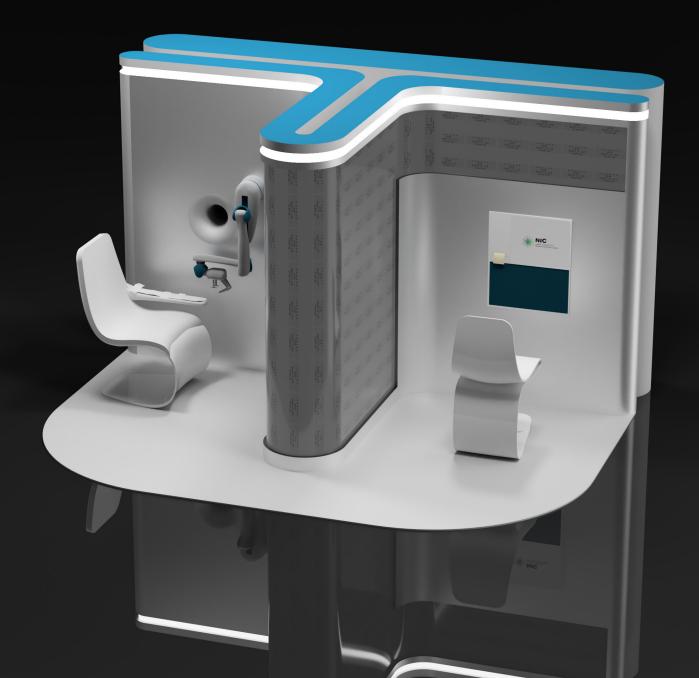
## Maha Alhamdan

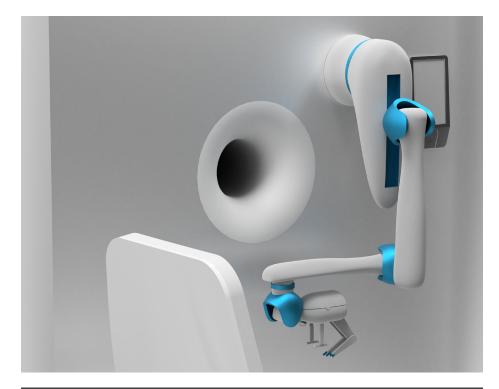
**BDU -Blood Donation Unit** 

### <u>About</u>

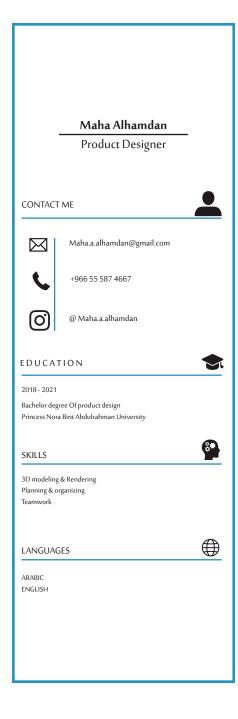
It is a design of a comprehensive unit for blood donation, in which the eligibility of the donor is determined and then the donation process is carried out by a robotic arm.

Inside arrangements are made for blood drawn and its pathways organized through a specific regulatory mechanism, in the first track a blood bank analysis is performed and the result is issued, the second track stores blood units in a special refrigerator in preparation for transfer to the hospital. It transforms the donation process into an easy, flexible electronic process, interacting with the donor from start to finish.



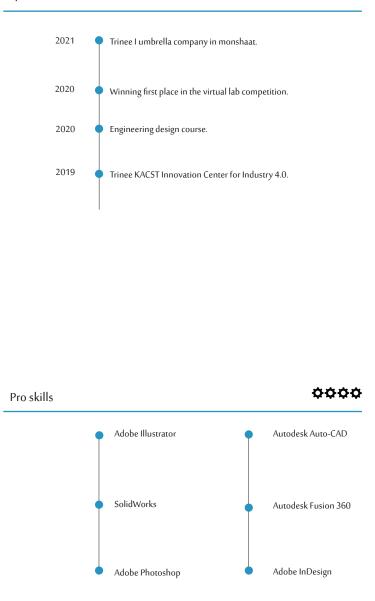






#### Experience and certificates

#### 



## Noura Almoghiyra

SPUR (Spine Physiotherapy unit robot)

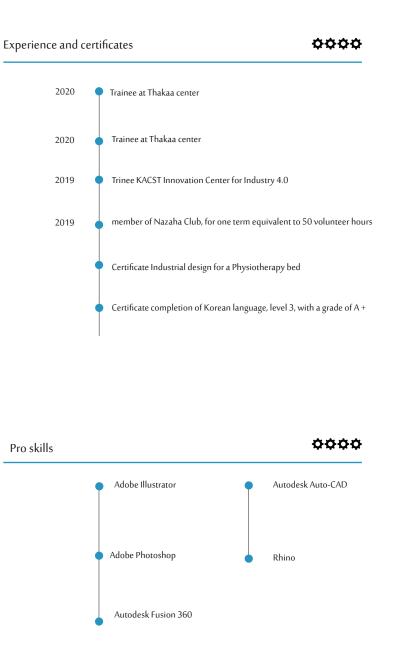
### <u>About</u>

Physiotherapy bed for back problems, with a robotic arm that performs more than one function, which helps to detect pain, traction therapy can relieve pressure on the vertebrae and spinal cord, and a therapeutic device for muscles by ultrasound, and scoliosis detection to measure the progression of the patient's condition, and to measure muscle capacity for the patient, to save time and reduce human labor, and reduce medical errors resulting from the treatment process.









## Shada omar alrashdi

Interactive Capsule for children with autism disorder

### About

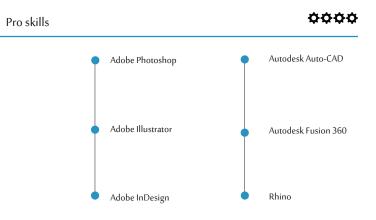
interactive capsule for children with autism disorder The product i to provide enjoyment and treatment for the patient, using the des for the pleasure of the user, as it combines sensory and motion help the patient develop and improve the patient's social comn skills, movement and cognitive skills, increase focus and attent patient, and enhance the development of knowledge of the pat virtual reality In the capsule







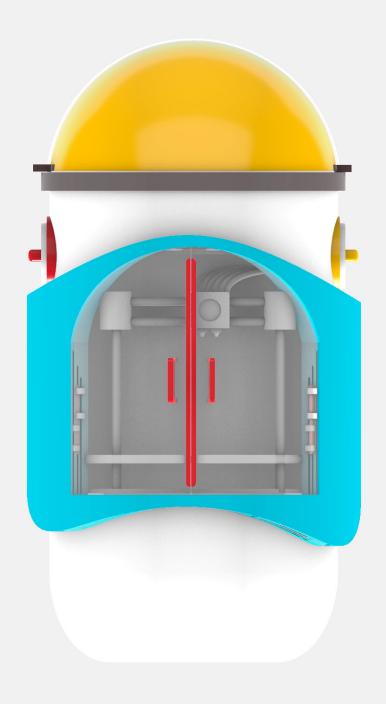




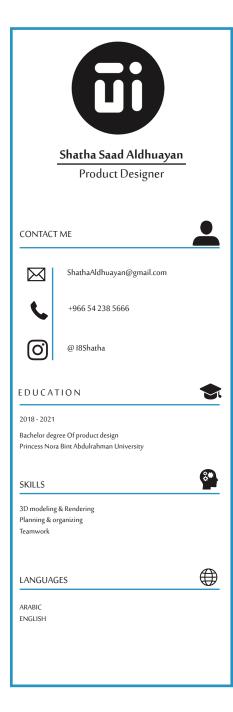
# Shatha Saad Aldhuayan

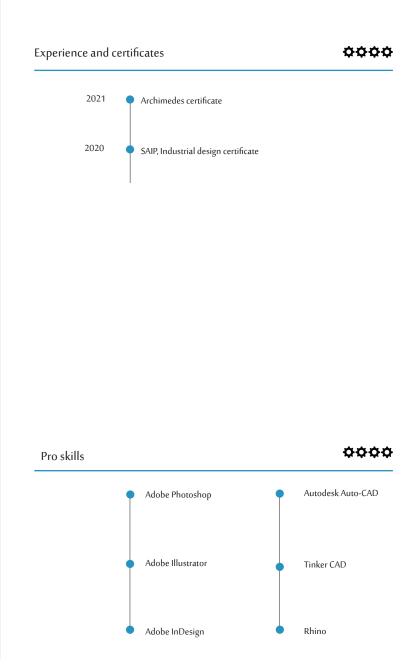
## <u>About</u>

A machine that can Recycle the Plastic and carton to produce toys for childr it can design the toys or choose any design from the ready-made templat it has only a one way to make the cartoon toys, and two ways to do plas toys







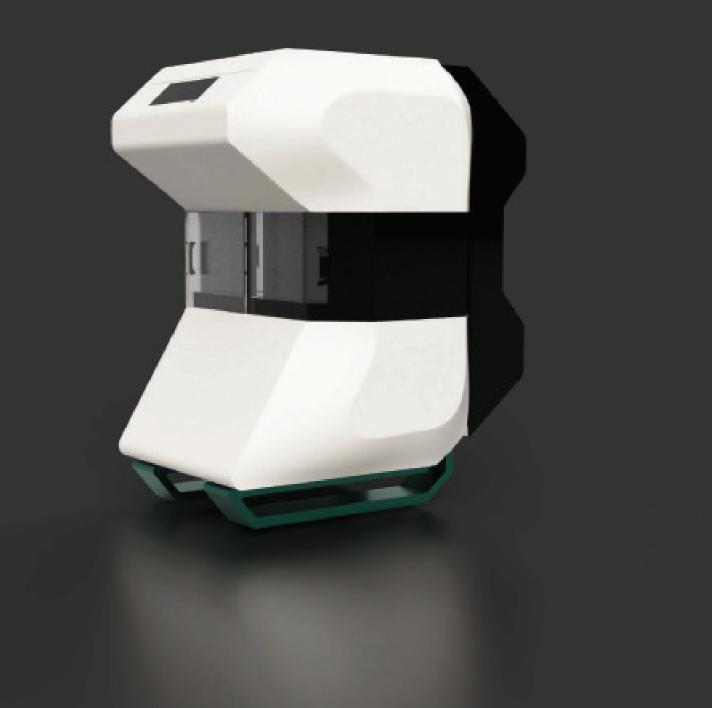


## Shumokh Yaser ALhuthail

Dates pack maker

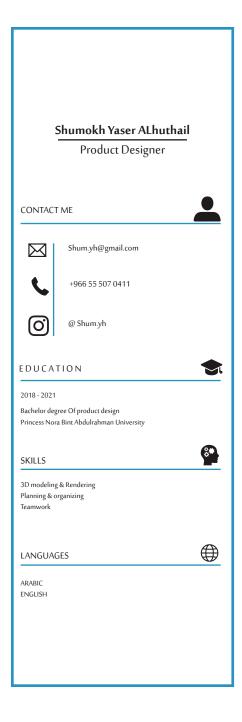
### <u>About</u>

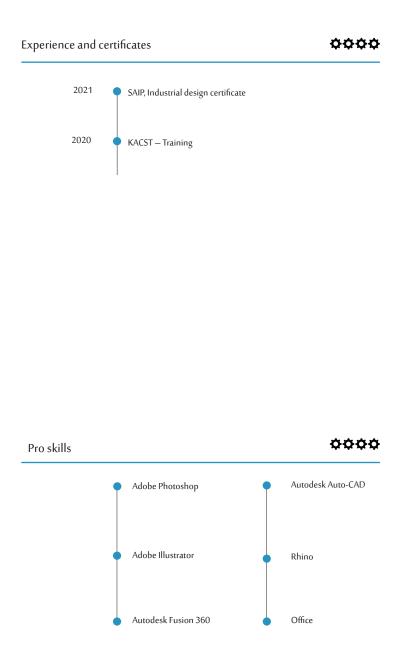
The product supports environmental sustainability by taking advantage of palm fronds and turning them into dates packaging packaging, instead of burning them, polluting the environment and negatively affecting agricultural crops, and also can extract chopped fronds for use as animal feed, the product is designed for its occasion for the external environment where it is used on farms dependent on solar energy.



### Isometric view

The entrance where the fronds are placed.





## Maha Ahmed Al-Zahrani

Orange squeezing machine and peels recycling

### <u>About</u>

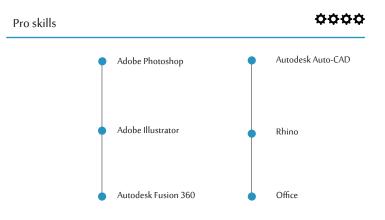
An electric powered machine to peel and squeeze oranges and Extract antibiotics from the outer peel and Transform it to powder











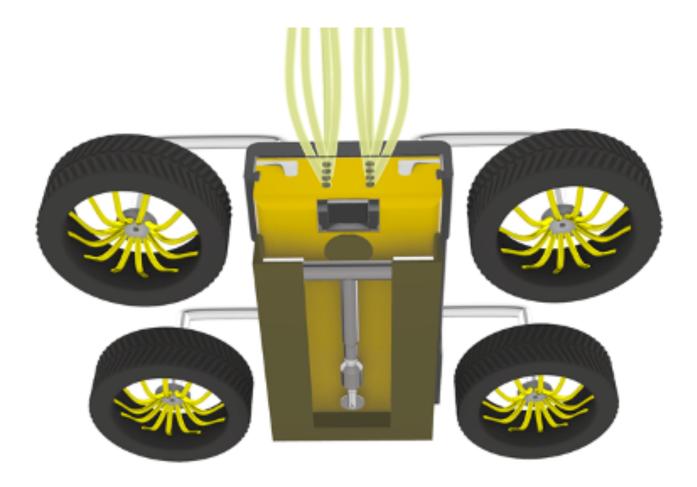
## Nada Majid Al-Bitar

### <u>About</u>

Dates picking operation needs a professional hand to operate the misson without the need of a human hand.

Thus the idea was created,

as the robot will be designed to complete the full operation of picking the dates from a palm trees.

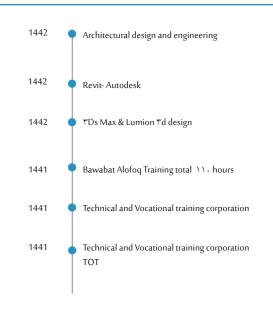


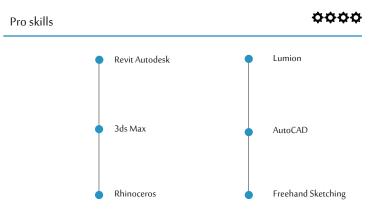
Different function for each position of the product, whether it's fly position or normal tractor working



Thrusters of the robot take into account the dead load and life load while working Dead load = 800 Kg Master material : Titanium+ Aluminum





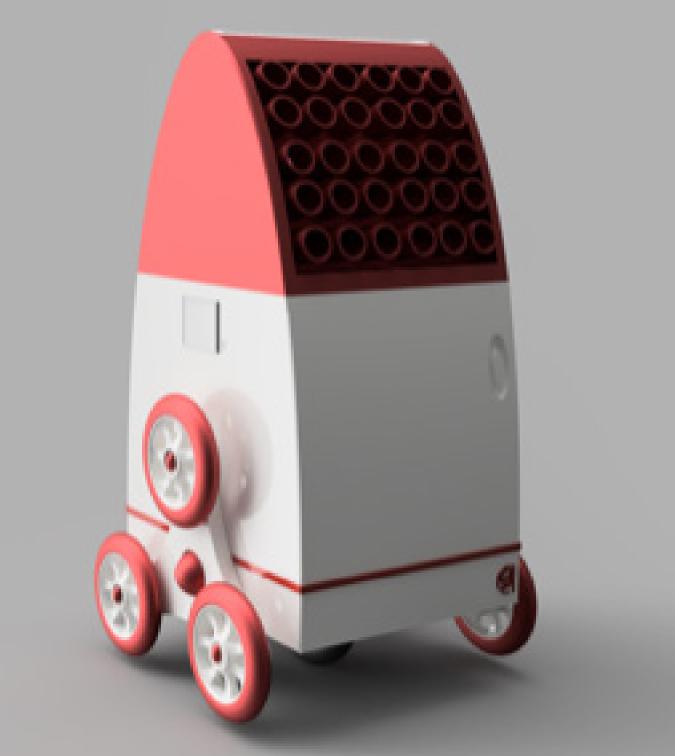


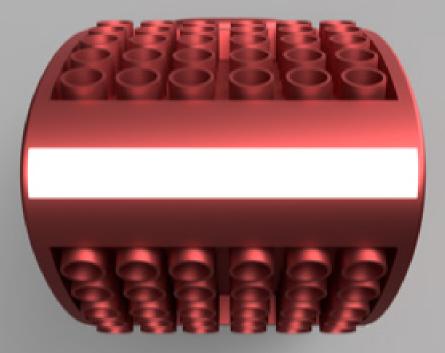
## Latifa Fahd Al-Muharj

Indoor fire fighting robot

### <u>About</u>

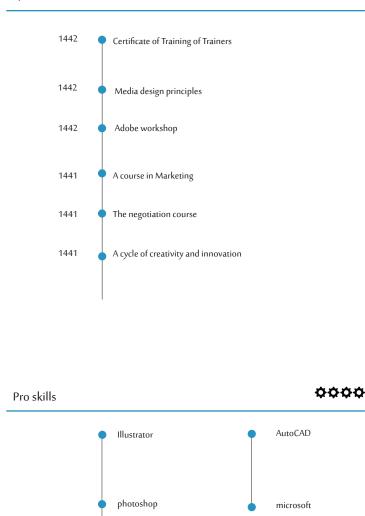
A robot that extinguishes fires inside homes, equipped with high sensors associated with smoke detectors in homes. It is also equipped with outlets for spraying fire extinguishing material, these ports are characterized by its ability to move up to  $\gamma\gamma$ . degrees and also these ports are characterized by beveled corners so that the materials can reach the farthest point and higher, and it contains two materials to extinguish fires, which is foam and liquid material. This robot is characterized by the presence of a radar to measure the temperature of objects and the number of people inside the place, then it sends an alert to the civil defense men, and it contains an outlet that contains a heat-insulating blanket that covers the people present in the place to avoid the heat. The three-wheeled robot covers are able to climb stairs and move easily.







#### **0000**



Rhinoceros

## Lama Salem ALkatheri

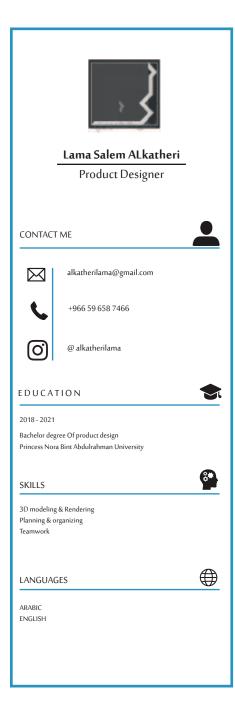
Olive Machine

## <u>About</u>

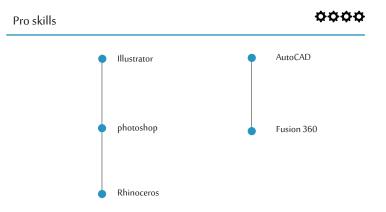
A machine to produce three products from natural olives The first product is natural olive oil, first squeeze The second product is natural olive paste without any preservatives The third product is natural charcoal from olive seeds For home use and a suitable size for kitchen











## Halah Aalqeel

Kanakh

### <u>About</u>

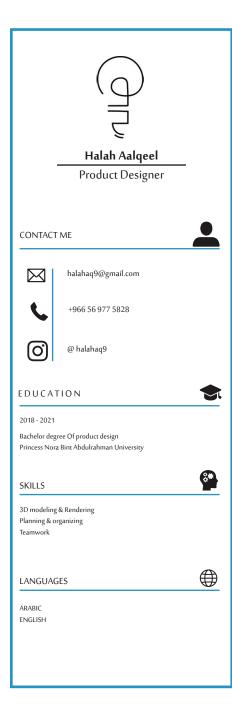
A coffee shop machine that makes recyclable products from coffee grounds

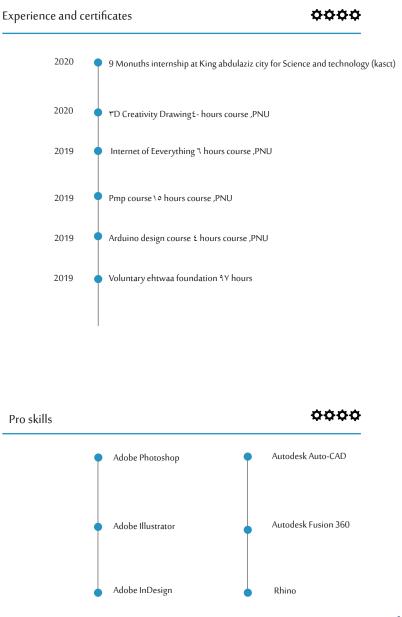




### **Isometric view**

A smart screen to interact with users to recycle the cup into sustainable products





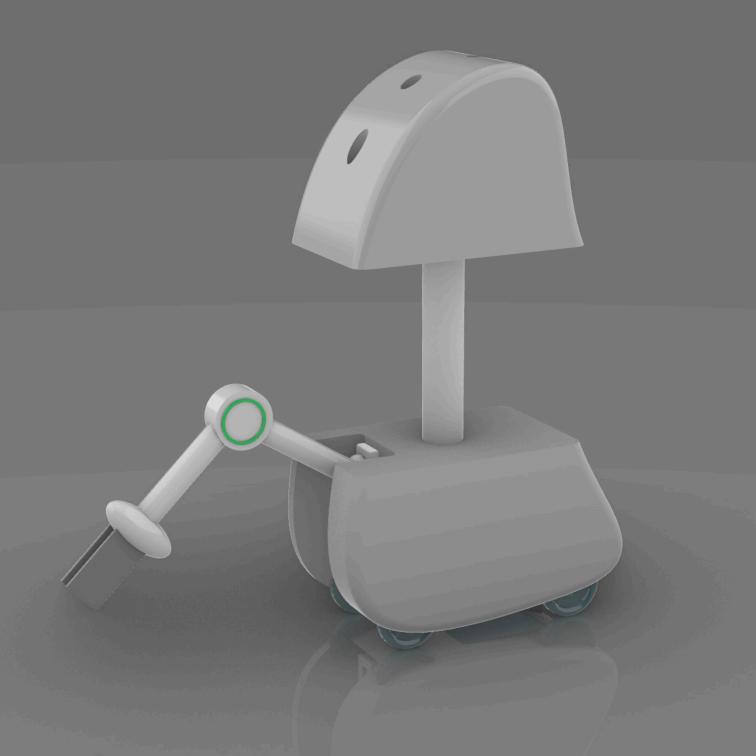
## Mariam Mubark Alwdman

Food waste recycling device Hajj during season

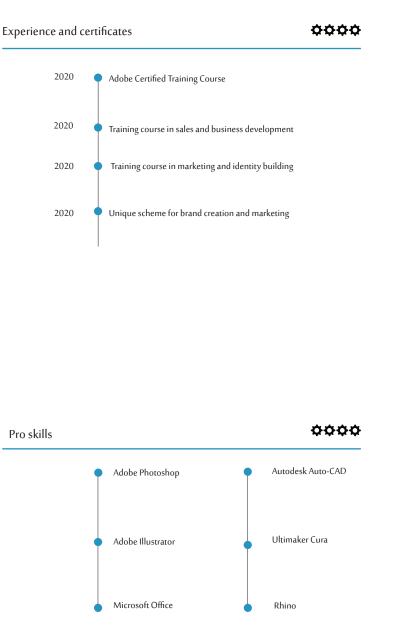
## <u>About</u>

A device to solve the problem of the accumulation of food leftovers offered for Hajj, a smart device to recycle food waste with a robot with an arm to pick up and drain foods from the floor where the robot stores them to the point of filling and then transports them to the primary device for compression, fumigation and conversion to home-made compost, with the potential for the height of the robot and the presence of a sanitizer.









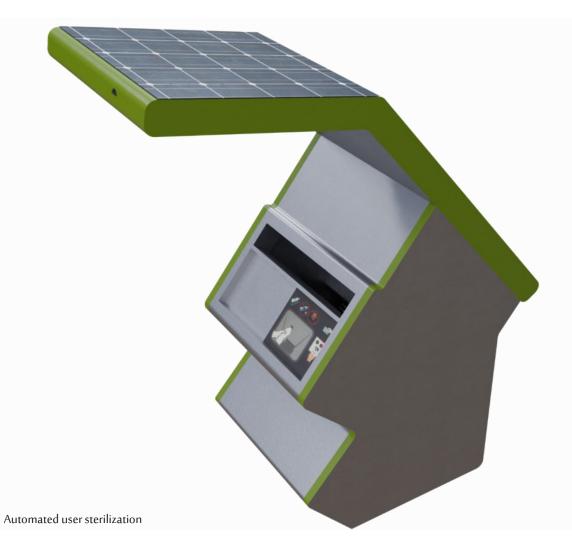
## Norah Abdullah Al-Ajmi

A device for recycling plastic waste in Hajj (Green)

### <u>About</u>

A suitable device for pilgrims from all nationalities to use, contributes to solving the waste problem Plastic and activating the role of the pilgrim in contributing to preserving the cleanliness of the environment, and achieving Environmental and economic benefits for the government of the Kingdom of Saudi Arabia through waste diversion Plastic from being a waste to a source of wealth

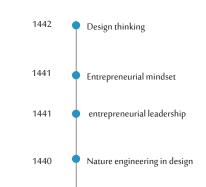


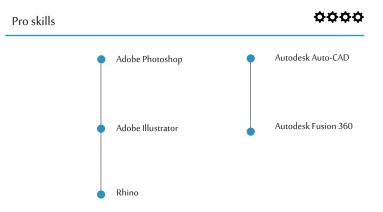




#### Experience and certificates

#### 





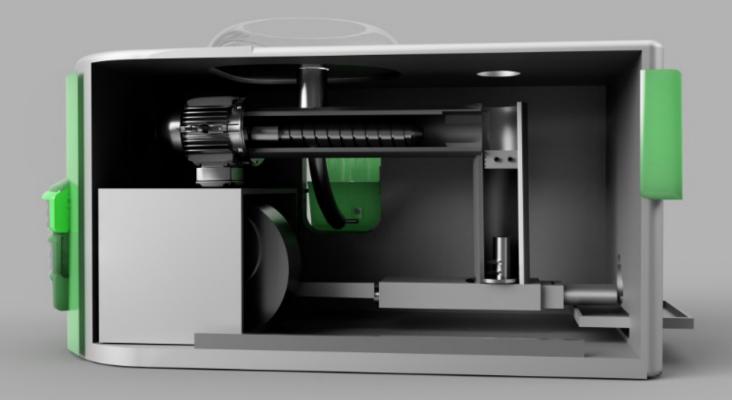
## Asma Arar Shuaifan Al-Dossary

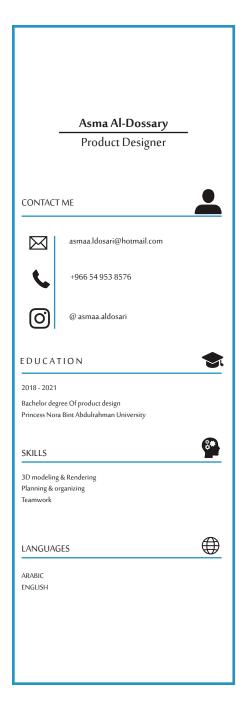
Extracting oil from acid peels and converting the remainder into charcoal

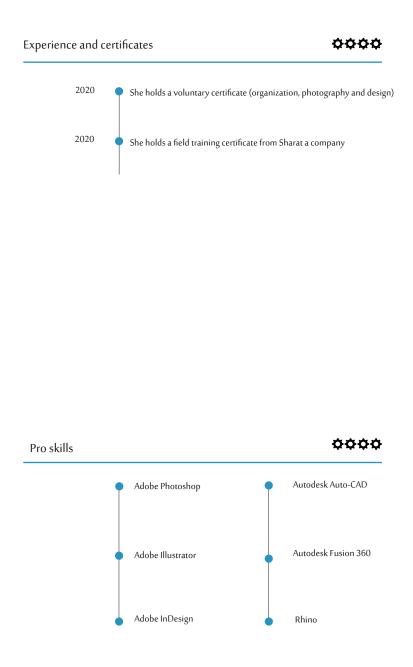
#### <u>About</u>

Reuse of acid peels and banana peels to extract oils and convert waste products to produce natural charcoal that does not harm nature. The product is intended for restaurants and juice shops due to the accumulation of peel.









## Rola Khalid Almuqbl

A.R.C (Advanced Robotic Cleaner)

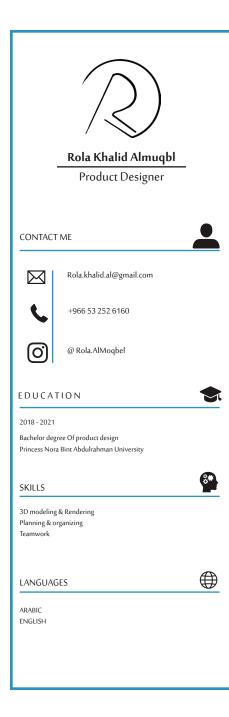
### <u>About</u>

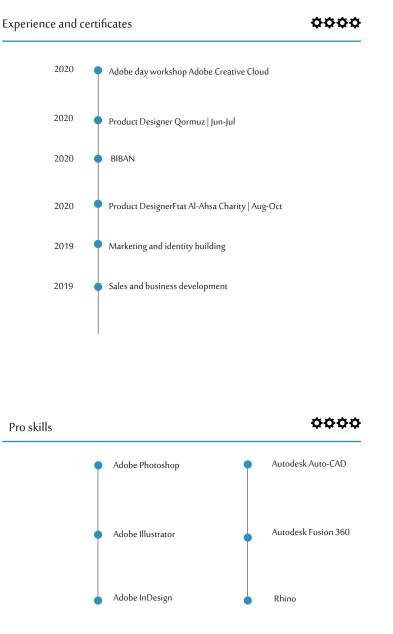
A cleaningrobot designed for cleaning the floors of the Great Mosque of Mecca increases the effectiveness of the cleaning process as it uses three methods of cleaning in addition to sterilization with an eco-friendly technology and increases the rate of water rationing, plus a charging station





**Isometric view** charging station





# Ghaida Mohammed Albeyahi

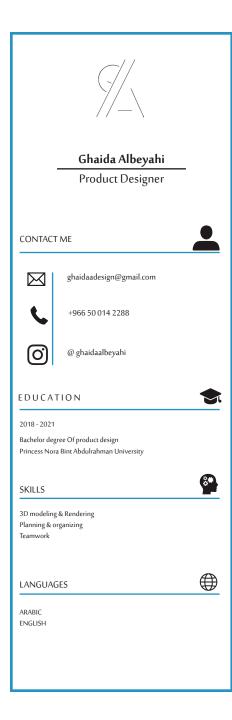
Date Sugar Maker

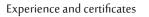
### <u>About</u>

A machine designed to produce date powder and date syrup from the home kitchen to make sugar, with the goal of minimizing white sugar in cooking and helping diabetics



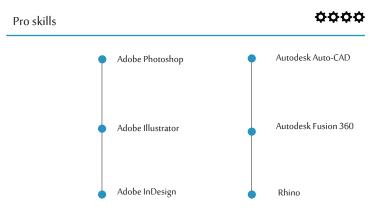






#### 





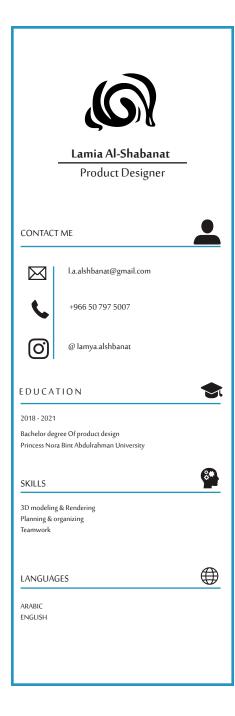
### Lamia Abdel Rahman Al-Shabanat Hydro rescue: H2C

### <u>About</u>

The H2C Hydro rescue project is a water rescue. This product is characterized by its presence in cars and the ability to help and rescue, God willing, before the arrival of the civil defense, this product can rescue a person or help to save another person, and the battery of this product lasts for a period and in the event the battery runs out it collects energy from Water movement to provide it with energy.









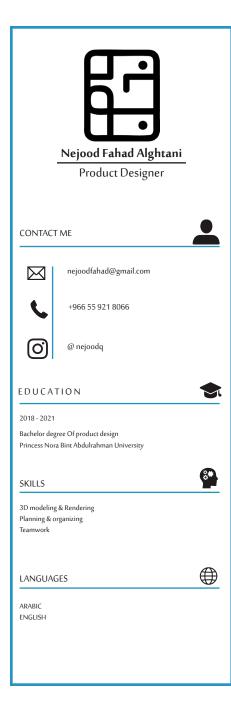
### Nejood Fahad Alghtani ECOcycle (Ecological, Culture, Oriented bicycle)

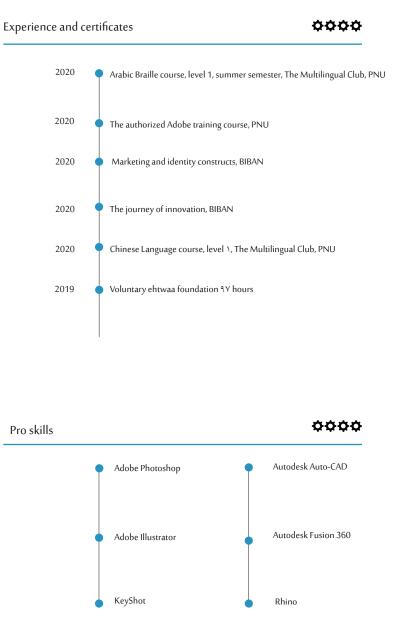
#### <u>About</u>

A hybrid bicycle that fits with the Kingdom of Saudi Arabia»s culture and environment, supports the Kingdom»s vision in the field of health and the environment, promotes the culture of cycling for females, and supports multiple groups of society, such as the deaf people









# Alanoud Bin Bosayes

Cyclone,

### <u>About</u>

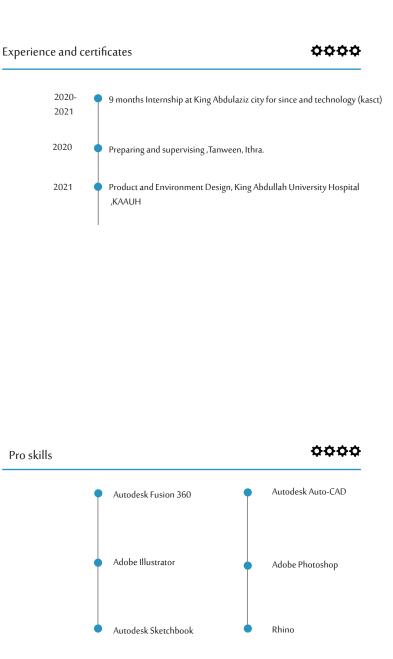
What: exterior and interior design of an off-road electric rally car Why: to shield car parts, save drivers' time and most importantly protect drivers' lives with a goal of reaching finish lines and winning How: by designing a set of systems and tools as follows: Quick wheel switch system, tool drawer, ventilated exterior body, steering wheel protector, navigation board, interactive screen, central firefighting system









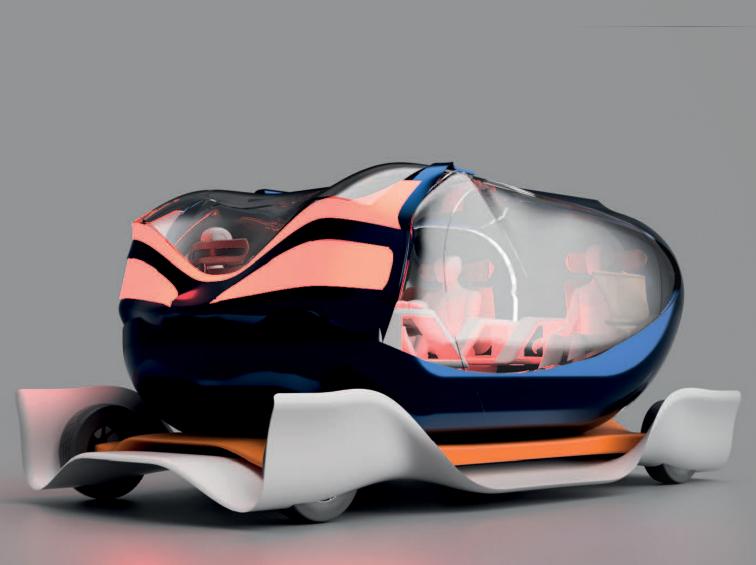


## **Amal Amer**

ExPod

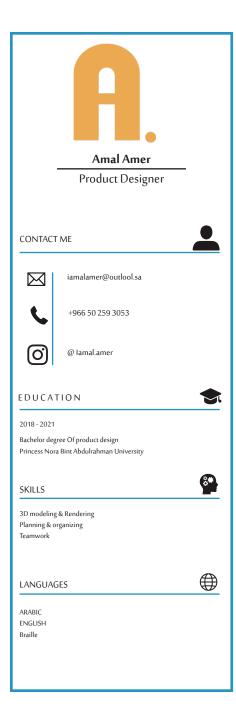
#### About

Autonomous electric pod to provide comfy and entertaining experience for every passenger.



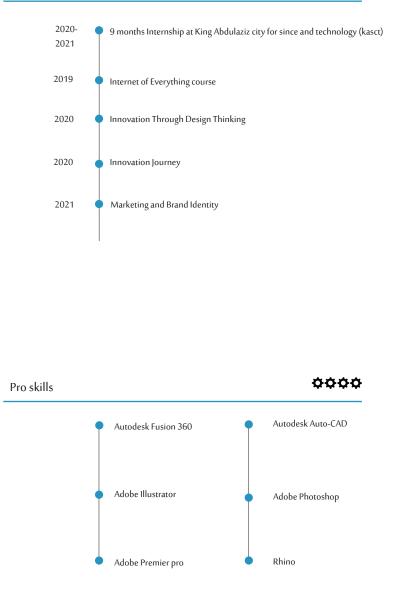






#### Experience and certificates

#### 



## Lolwah Ali AlOmair

**Rescue Robot From Natural Disaster** 

#### <u>About</u>

Every year the world faces many natural disasters that cause multiple humanitarian disasters that lead to massive losses of property and human lives, and earthquakes are considered as the most dangerous of all . Based on that, the rescue robot was designed to save injured people autonomously without human intervention, which is also supported by a protection system that provides a safe shelter during and after earthquakes.

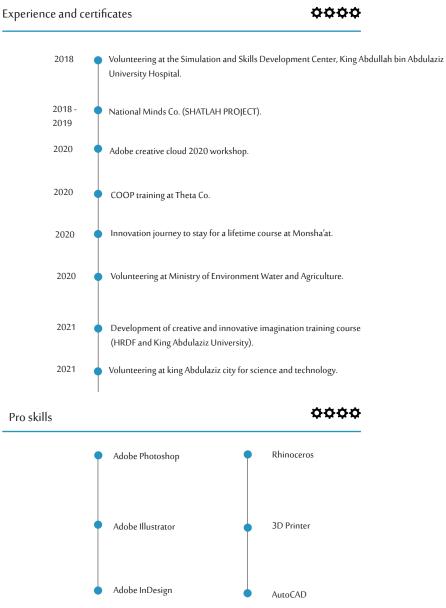










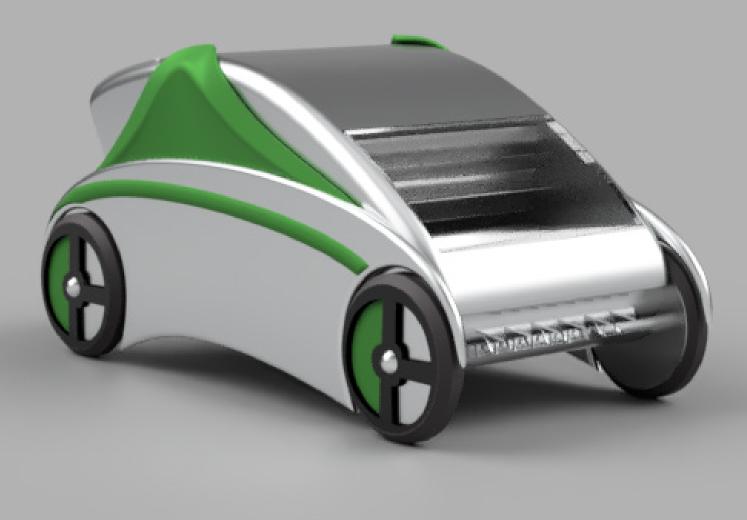


# Luluah Alfunaysan

Hasawi rice-growing robot

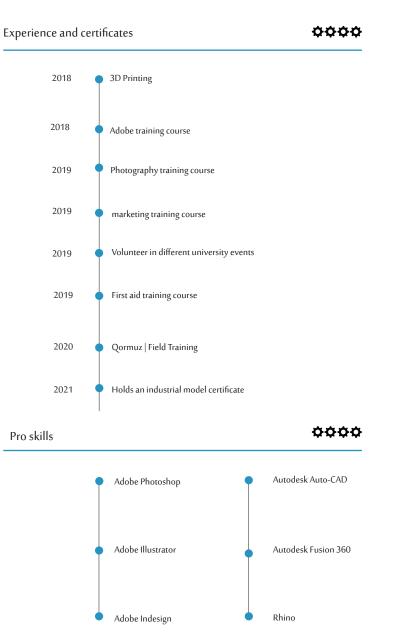
## About

A self-driving agricultural vehicle specially designed for the cultivation of Hasawi rice, characterized by its performance in the stages of rice cultivation, which consist of: plowing the land, sowing seeds, mowing, harvesting and then replanting and finally harvesting and obtaining the Hasawi rice grains





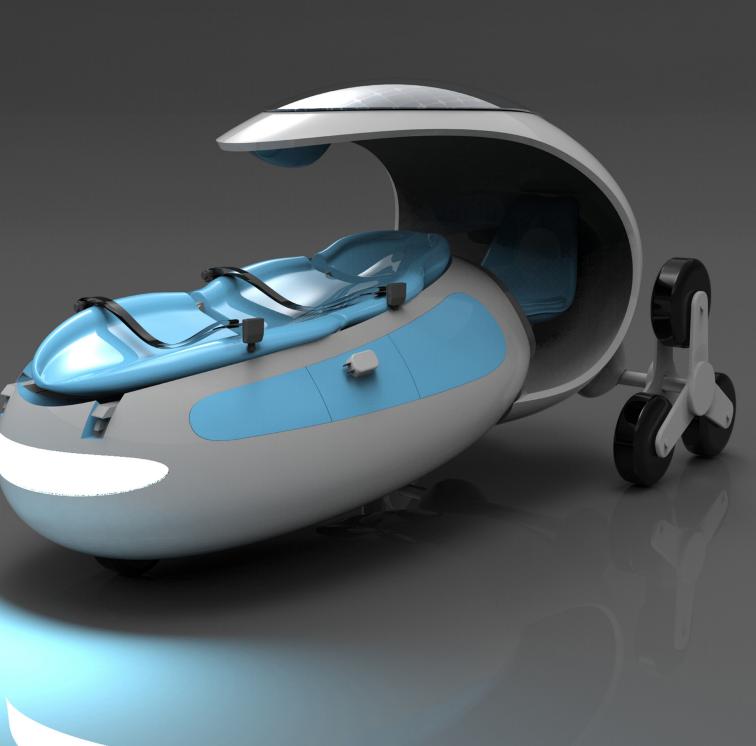




## Sara Khalid Alsaeed FIRST AID ROBOT

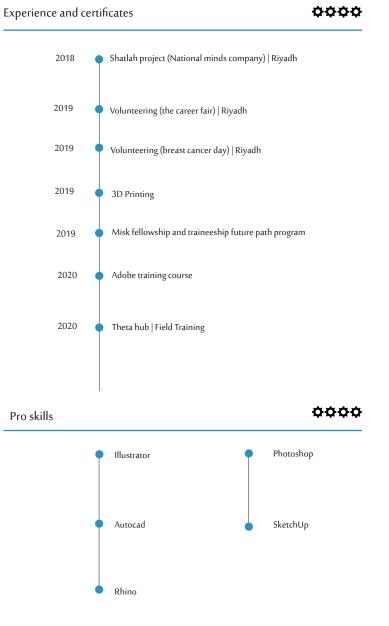
### <u>About</u>

A First Aid Robot is a vehicle directed by the paramedic outside the lane, and upon entering the lane designated for it, it becomes a self-driving. The robot was built to reach the injured faster and help them in the Grand Mosque in Makkah and reduce the effort spent on paramedics.









# Roba alfadhel

Cardboard CPB

### <u>About</u>

It's a recycling machine, which produces paper bags when we insert the unusable cardboard inside it

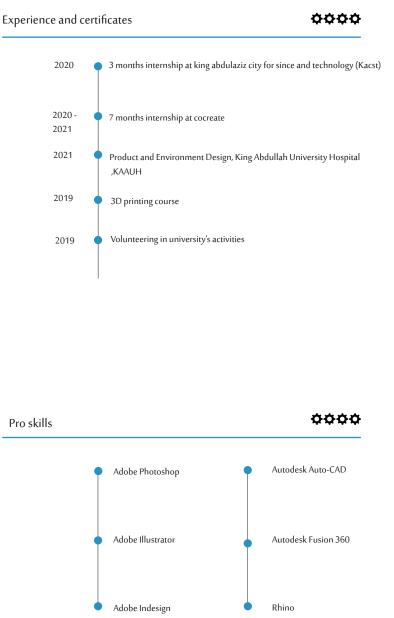












## Hessa AlSaleh

Road Repair and Maintenance Robot

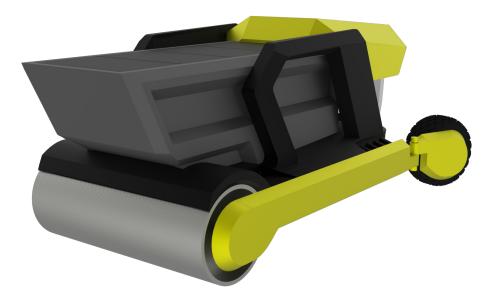
### <u>About</u>

A multifunctional robot that repairs and maintenance road problems, it starts by defining the problem and ends with fixing the road

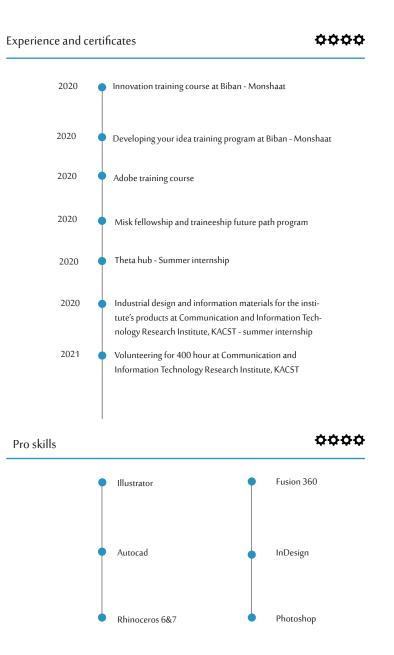








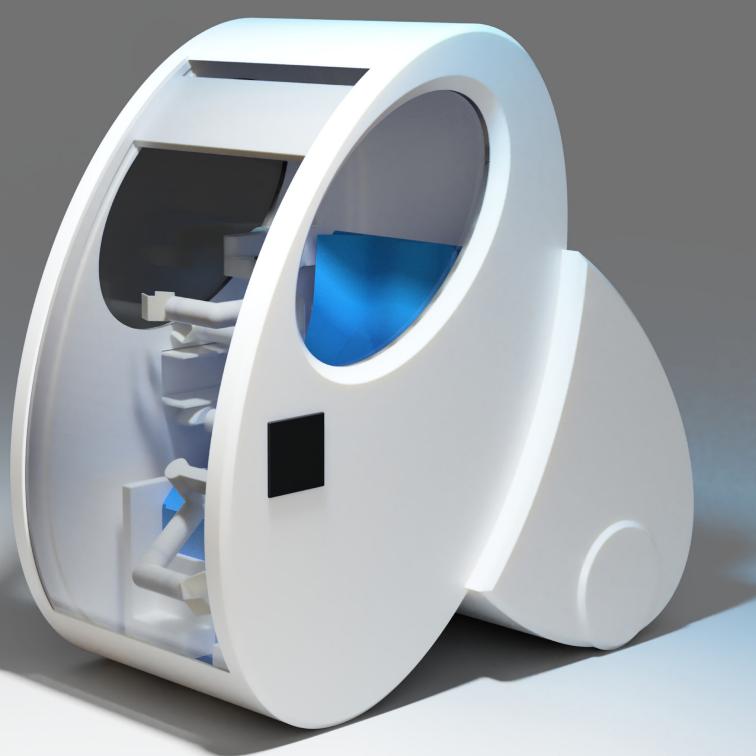




## Raneem Alsemari Di-Fracture

### <u>About</u>

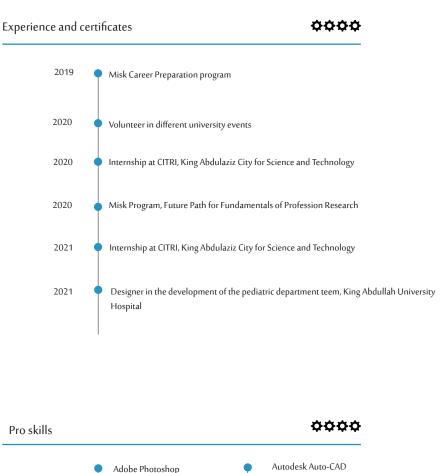
An auto-mobile capsule designed to diagnose and treat fractured limbs (arms\legs). Enhanced with an AI system and a UI that clarifies all the steps of the treatment process. Designed with claustrophobic patients in mind, with side windows placed to give a feeling of spaciousness, and the front door made of glass to grant the illusion of open space.

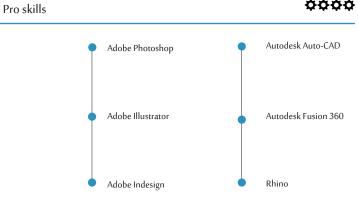












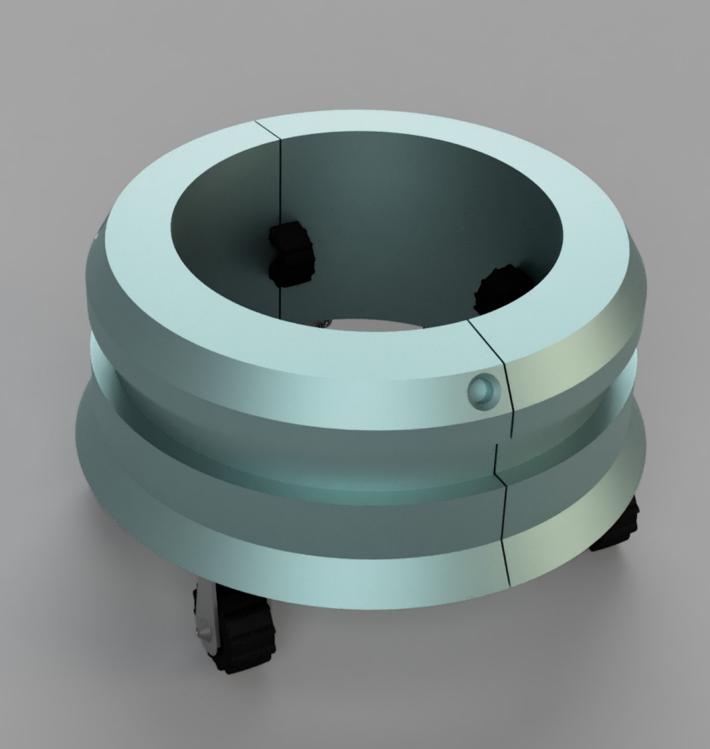
# Raghad Al turki

Palm tree Robot

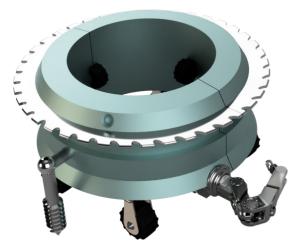
### <u>About</u>

It's a palm care robot it works by self-control and performs the functions of digging, planting, climbing, pollinating, pruning, harvesting, monitoring palm health. It has the following features:

- works on battery and automatic charging system
- Health care monitor
- Wifi enable Control from your phone,PC and more
- Built in camera





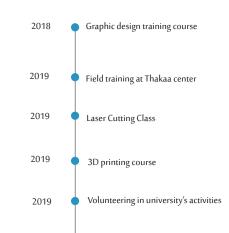


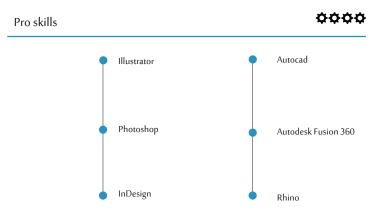




### Experience and certificates

#### 



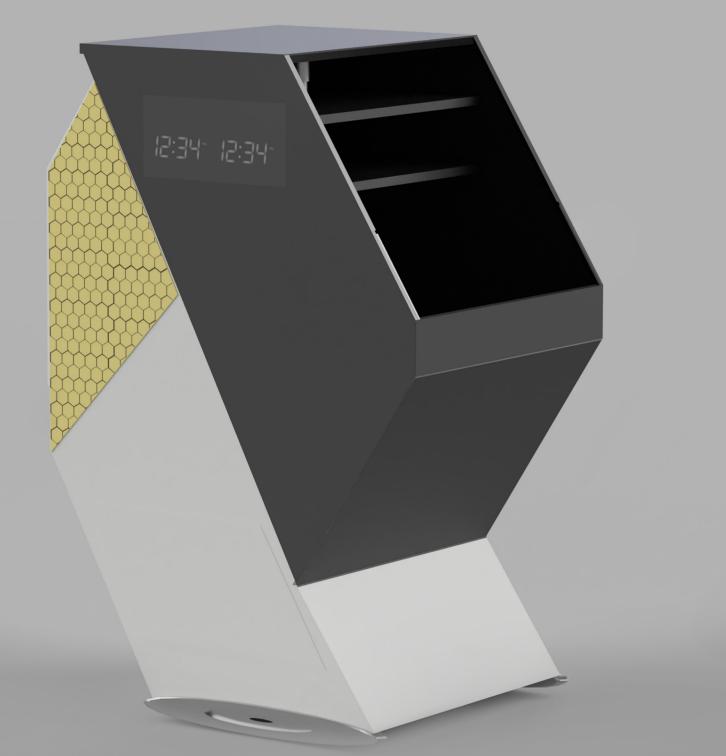


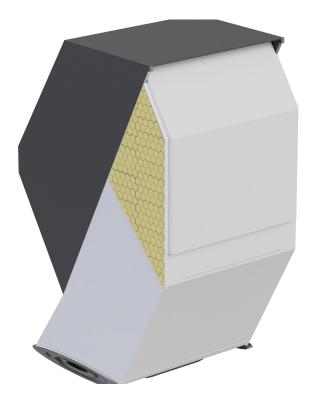
# Zahrah khalban

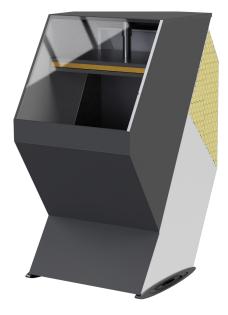
Honey collect and extraction robot

### About

Honey collect and extraction robot It is a robot that collects beeswax from the boxes, and then performs the process of piercing the wax to extract the honey, after which it packages and canning it.

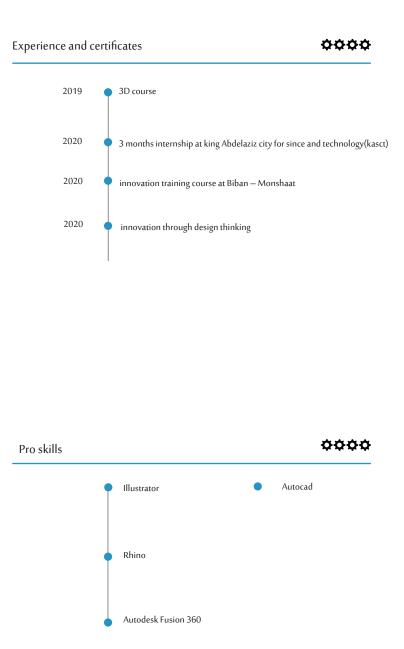












# Afaf Alshraheani

Serving robot for isolation rooms

### <u>About</u>

Robert is a self-employed isolation room butler who serves the patient to reduce human exposure to the risk of epidemics

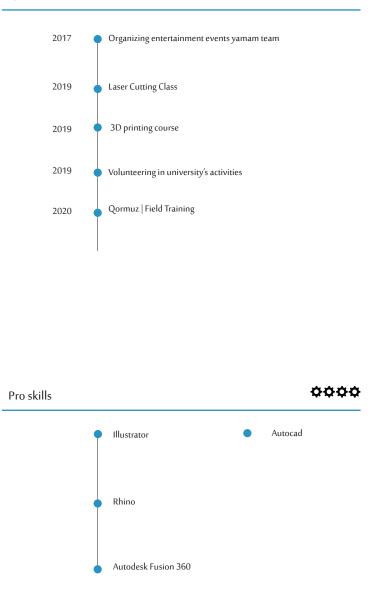






### Experience and certificates

### 



كل الشكر و التقدير للجنة المعارض و الانشطة و العلاقات العامة والاعلام: أ. البندري الحلوان أ.ديمة العودان أ.بيادر العيسي

> شكر خاص للمصممات: لولوه الفنيسان شهد الخليفة مها العقيل



