

# HANIF Rescue Robot Team

(Affiliated to YSC)



## Team Description

### 1. About YSC

YSC is a well known research center in Iran to educate researchers in the appropriate fields. In addition to training Iranian National Scientific Olympiad Team, YSC provides the facility needed for university students to do scientific researches especially in the field of Mechanical, Computer & Industrial Engineering. HANIF Robotics is a subgroup of YSC working on robotics.

### 2. Project Description

Geographical location of IRAN is on one of the most dangerous earthquake lines, and every year earthquakes which are both common and fatal, happens. Working on **rescue robots** is necessary in detecting victims, which could help rescuers to rescue more human lives.

Our aim in this project is design, construct & control of an autonomous robot which could be able to move around in an unstructured environment and could detect victims in hazard areas.

Participating in Robocup **Rescue** competition is a situation to challenge ideas in this field.

Our team is divided into three sub teams:

- Mechanical engineering students group.
- Computer software engineering students group.
- Computer hardware engineering students group.

### 3. Current Researches

- Dynamical Analysis of Mobile plates.
- Path planning and Victim detection using Image processing.
- Positioning of mobile robots.
- Design, Prototyping and Control of Snake Robots.
- Design, Development and Control of ROVs.
- Mechanical Use of Smart Materials specially SMA.

### 4. Team members

#### ❖ Team leader,

Navid Ghafarzadehgan,  
Mechanical engineer

#### ❖ Mechanical engineering students

Sadegh Dabiri  
Arezu Motevallizadeh  
Ali Azimi  
Sareh Ebrahimi  
Hadi Emamifar  
Sina Rastad

#### ❖ Electrical engineering students

Mohammad Hossein Taghavi  
Amir Salman Avestimehr  
Peyman Shariat panahi  
Mohammad Najmzadeh

#### ❖ Software engineering students

Hossein Fardad  
Ali Sharifi