

Listening & SummarizingRules To Succeed By APJ Abdul Kalam.

The video shown is an extract of an interview of APJ Abdul Kalam in which he explains how greatness is achieved and the things which should not be missed for that achieving success in life. He in the video has explained about the importance of managing the failures, learning from it, thinking big and aiming beyond the human limitations and learning and acquiring knowledge continuously. He also went on to explain the greatness of a teacher who can help shape the future and mindset of a child.

He starts off by pointing out the importance of learning to handle failure in life because problems are encountered in every other step of life. If we become the captain of the problem and control it, we'll be on the way to succeed. The inescapable chain to success is learning - creativity - thinking - knowledge and eventually success. Naming some remarkable personalities, inventors and geniuses, he stated that their common characteristics was imagining the impossible and breaking the limits of imaginations. Imaginations, Inventions and discoveries are the outcome of creative minds who have been continuously working with constant efforts. When asked about some tips for the young generations, he repeated the four major traits of successful ones are aiming great, acquiring continuous knowledge, working hard and persevering. Reminding the times of his childhood, during the WW II, he elaborated how at the age of 10, he was heavily inspired by a teacher from whom he used to see the radiation of knowledge and purity of life. He also reminded that the way teacher taught him shaped his dream and the way of life.

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Thus, he expressed strong beliefs that teachers are the ones who help shape the mind of a child, properly nurture their brain and help them set big dreams and eventually lead to success in life.

In this way, APJ Abdul Kalam put forward a highly inspirational talk, motivating the people of young ages to stay creative, dream big, aim higher than the limit, acquire knowledge continuously, do hard work, persevere and face challenges in order to succeed in life.

Expected number of words in the summary

$$29 \times 13 \approx 375$$

**BIMAL PARAJULI**

**REG: 20BDS0405**

DATE: 2021/04/13

FAT Assessment

## **LISTENING COMPREHENSION**

Answers:

1. **C.** Brook Dale High School.
2. **a.** Tricia Cousins will teach two of the new classes.
3. **d.** She wanted to make the cultural centre a more important part of the Allendale community.
4. **a.** The number of people who have visited the cultural centre has declined over the last several years.
5. **b.** generous
6. **C.** writing in a journal can help teenagers become better and more creative writers.
7. **C.** three new classes for young adults added to the cultural centre's arts program
8. **b.** most important information first, followed by background and details

BIMAL PARAJULI

20BDS0405

2021/04/13

Narrative writing (FAT Assessment)

## She's one of us.

Last time I saw her – I could see hopes in her eyes that tomorrow would be a better day to come. Society would be a better place to live and the people would be more kind towards her. She's one of us - a member of our society, an important component of our community and a major half of the universe. Then why is it that she is depressed, suppressed, deprived of everything and separated from the mainstream of the society while most others are happy. Was she less fortunate than us or less capable than us?

I guess neither. She was just brutally attacked –first by the deeply rooted cruel patriarchal ideology and then by the members of the society themselves. Day upon day, she breathes another difficult and sorrowful sigh expecting the next day would be better for her and the others like her. But the day never came. Maybe the black sheep of the society never wanted the day to come when she and the millions others like her become free, happy and live out the true meaning of its creed: 'We hold these truths to be self-evident; that all men are created equal' as Dr. Martin Luther King Jr.said.

It's extreme inhuman and barbaric nature of our this world which could not improve in spite of the major technological improvement over the centuries. One of the reasons may be that ideologies do not evolve as quickly as technology does. Hence leaving millions of such girls and women round the trapped in violence, harassment and domination.

But things should change for good. For changes to happen that never happened before, we must make efforts the strongest efforts that has been never made before. Together as a civilized members of our society, the major responsibility is ours that we treat all humans equally and follow the principles of universal brotherhood. Replace the typical social stereotype rationally and make society a better place for all –be it a boy or a girl to live in.

Hoping for that day that brings smile to her and millions of others faces globally by completely eradicating sexual, domestic violence, hatred and discrimination. That day the society will catch new pace in development and improvement which has never been witnessed before.

# TECHNICAL PRESENTATION

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BIMAL PARAJULI  
(20BDS0405)



# COMPUTER VISION

# WHAT IS COMPUTER VISION?

# INTRODUCTION

**Computer vision** is an interdisciplinary scientific field that deals with how computers can gain high-level understanding from digital images or videos. From the perspective of engineering, it seeks to understand and automate tasks that the human visual system can do.

-Wikipedia

# Computer Vision

Make computers understand images and video.



What kind of scene?

Where are the cars?

How far is the  
building?



## **Computer Vision incorporates:**

- Identifying the surroundings.
- Recognizing the objects.
- Identifying a person
- Finding visual patterns.. etc

# Vision is really hard

- Vision is an amazing feat of natural intelligence
  - Visual cortex occupies about 50% of Macaque brain
  - More human brain devoted to vision than anything else



# Hardware and tools used:

## Hardware:

- Cloud based
- Specially designed for image processing
- Supports machine learning algorithms
- Extremely powerful hardwares-billions of times faster than a normal computer.

## Tools and software required:

- OpenCV. This is a well-known library, a multi-platform **tool** which covers fundamental strategies and algorithms to play out image and video processing tasks. ...
- Tensorflow. Google's ML and Deep Learning library is quite popular today. ...
- Matlab. ...
- CUDA. ...
- Theano. ...
- Keras.

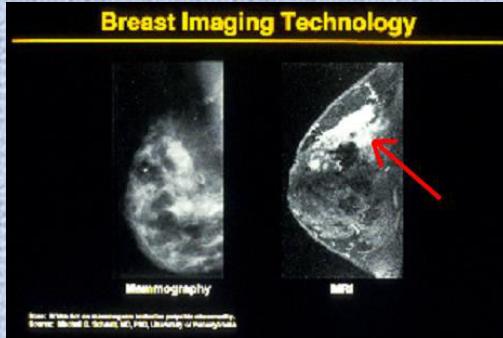


# Significance e & Application s:

# Why computer vision matters



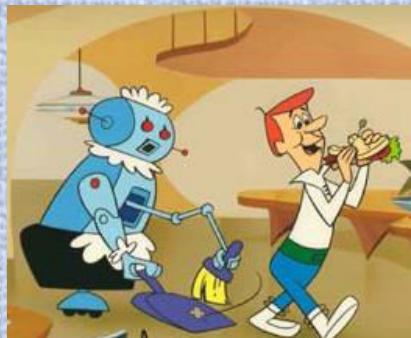
Safety



Health



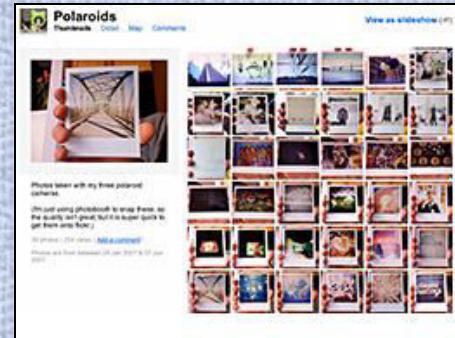
Security



Comfort



Fun



Access

# How vision is used with computers..

# Optical character recognition (OCR)

Technology to convert scanned docs to text



Digit recognition, AT&T labs  
<http://www.research.att.com/~leifer/>



License plate readers  
[http://en.wikipedia.org/wiki/Automatic\\_number\\_plate\\_recognition](http://en.wikipedia.org/wiki/Automatic_number_plate_recognition)

# Face detection

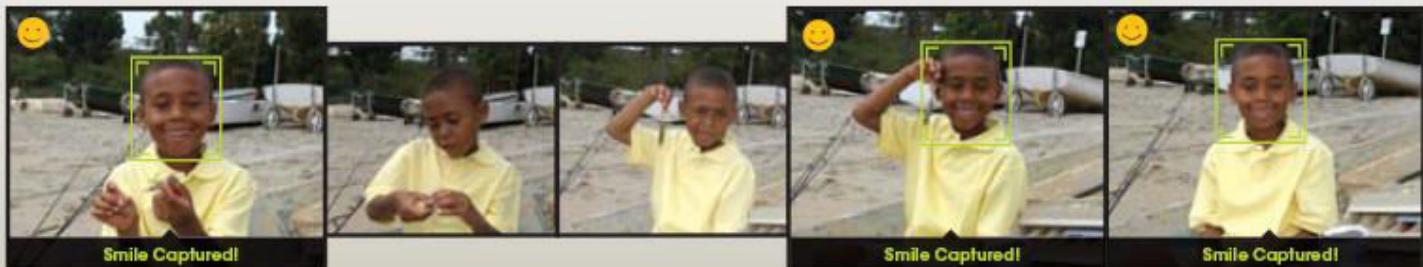
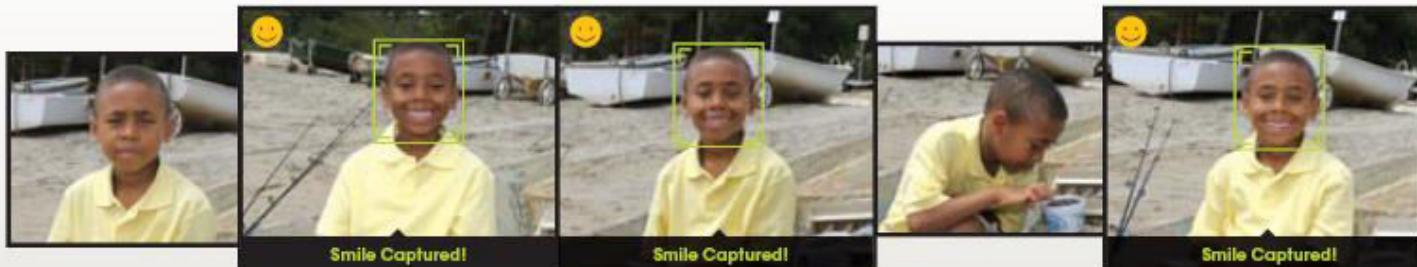
- Application of Face detection:
  - In digital photography to identify the persons in the photograph
  - In public places to track down burglars, thieves and trespassers.



# Smile and facial expression detection

## The Smile Shutter flow

Imagine a camera smart enough to catch every smile! In Smile Shutter Mode, your Cyber-shot® camera can automatically trip the shutter at just the right instant to catch the perfect expression.



# Object recognition (in supermarkets)

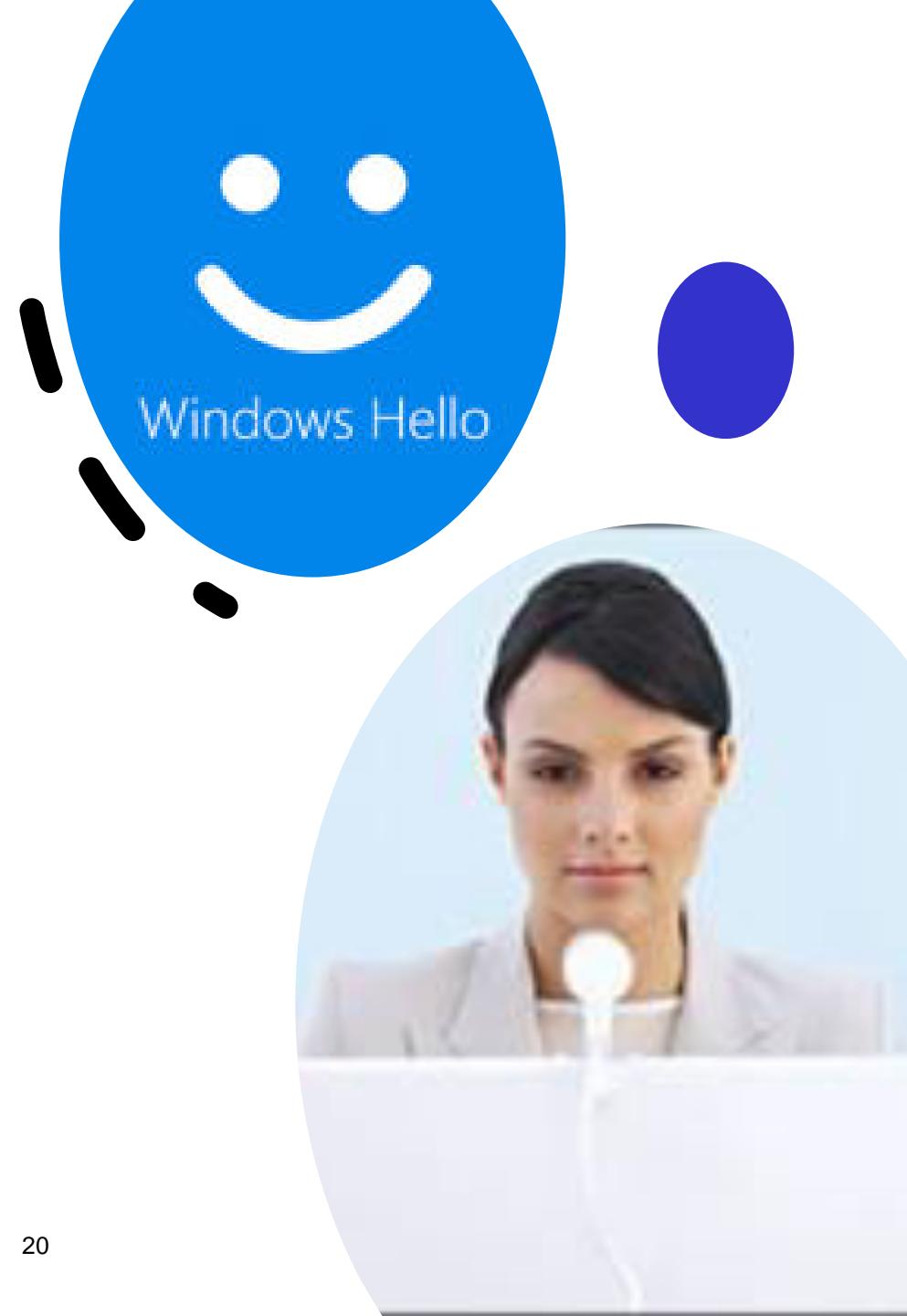


## LaneHawk by Evolution Robotics

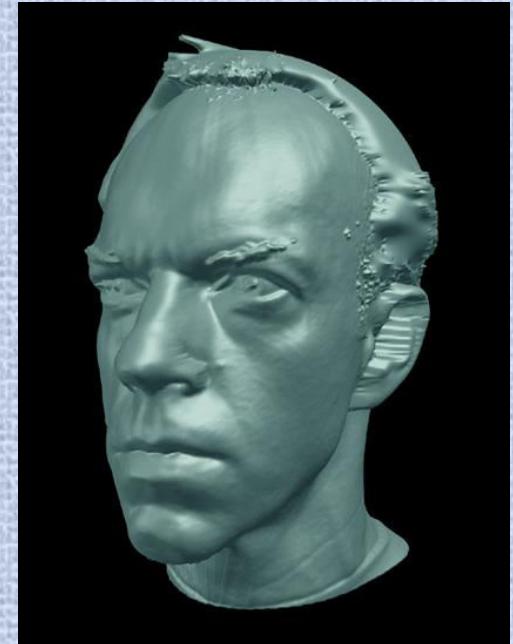
“A smart camera is flush-mounted in the checkout lane, continuously watching for items. When an item is detected and recognized, the cashier verifies the quantity of items that were found under the basket, and continues to close the transaction. The item can remain under the basket, and with LaneHawk, you are assured to get paid for it...”

# Login without a password...

- Face recognition systems are available now very widely in smart devices like phone, laptops and tablets that allows user to do touchless quick sign in.



# Special effects: shape capture



*The Matrix* movies, ESC Entertainment, XYZRGB, NRC

# Special effects: motion capture



*Pirates of the Caribbean*, Industrial Light and Magic

# Sports



*Sportvision first down line*

Nice [explanation](#) on [www.howstuffworks.com](http://www.howstuffworks.com/video.htm)

<http://www.sportvision.com/video.htm>

# Smart cars

Slide content courtesy of Amnon Shashua

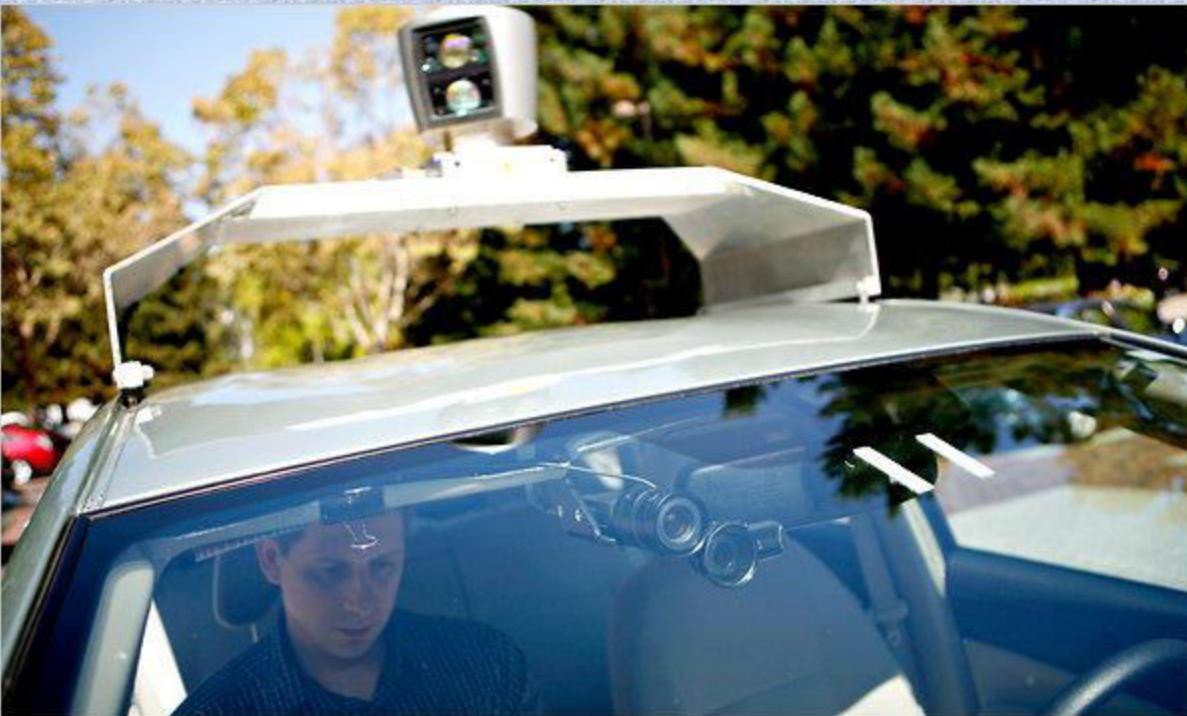
The screenshot shows the Mobileye website's "consumer products" section. At the top, there are tabs for "manufacturer products" and "consumer products". The main headline is "Our Vision. Your Safety." Below it, an overhead view of a car highlights three camera systems: "rear looking camera", "forward looking camera", and "side looking camera". Below this, three cards present different applications:

- EyeQ Vision on a Chip**: Shows a close-up of a chip labeled "EyeQ1" and "Mobileye".
  - [> read more](#)
- Vision Applications**: Shows a person walking across a crosswalk with a bounding box around them.
  - [> read more](#)
- AWS Advance Warning System**: Shows a circular display screen showing a car icon and the number "0.8".
  - [> read more](#)

On the right side, there are "News" and "Events" sections.

- Mobileye
  - Vision systems currently in high-end TESLA, BMW, GM, Volvo models

# Google cars





# Interactive Games: Kinect

- Object Recognition:  
[http://www.youtube.com/watch  
?feature=iv&v=fQ59dXOo63o](http://www.youtube.com/watch?feature=iv&v=fQ59dXOo63o)
- Mario:  
[http://www.youtube.com/watch  
?v=8CTJL5IUjHg](http://www.youtube.com/watch?v=8CTJL5IUjHg)
- 3D:  
[http://www.youtube.com/watch  
?v=7QrnwoO1-8A](http://www.youtube.com/watch?v=7QrnwoO1-8A)
- Robot:  
[http://www.youtube.com/watch  
?v=w8BmgtMKFbY](http://www.youtube.com/watch?v=w8BmgtMKFbY)

# Vision in space



NASA'S Mars Exploration Rover Spirit captured this westward view from atop a low plateau where Spirit spent the closing months of 2007.

## Vision systems (JPL) used for several tasks

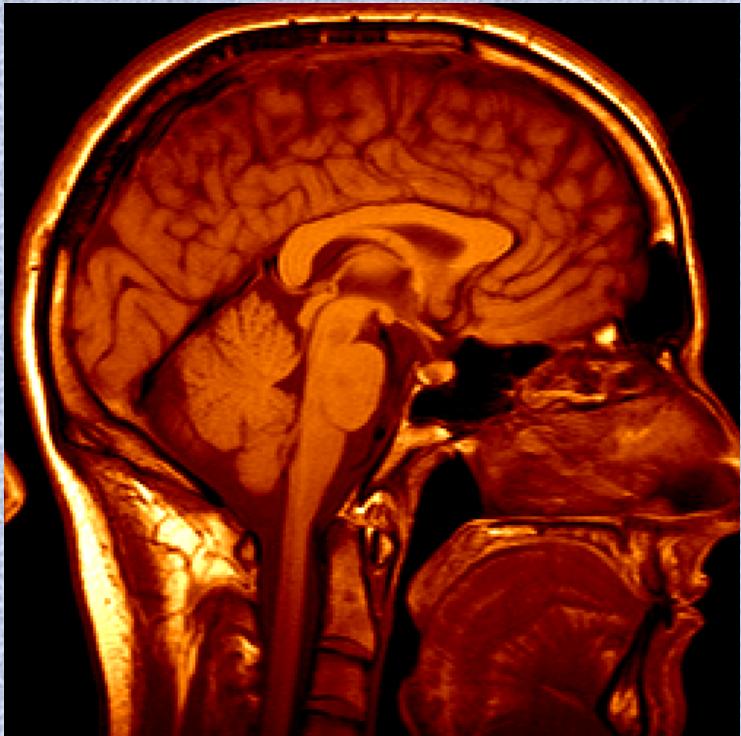
- Panorama stitching
- 3D terrain modeling
- Obstacle detection, position tracking
- For more, read “Computer Vision on Mars” by Matthies et al.

# Industrial robots



Vision-guided robots position nut runners on wheels

# Medical imaging



3D imaging  
MRI, CT

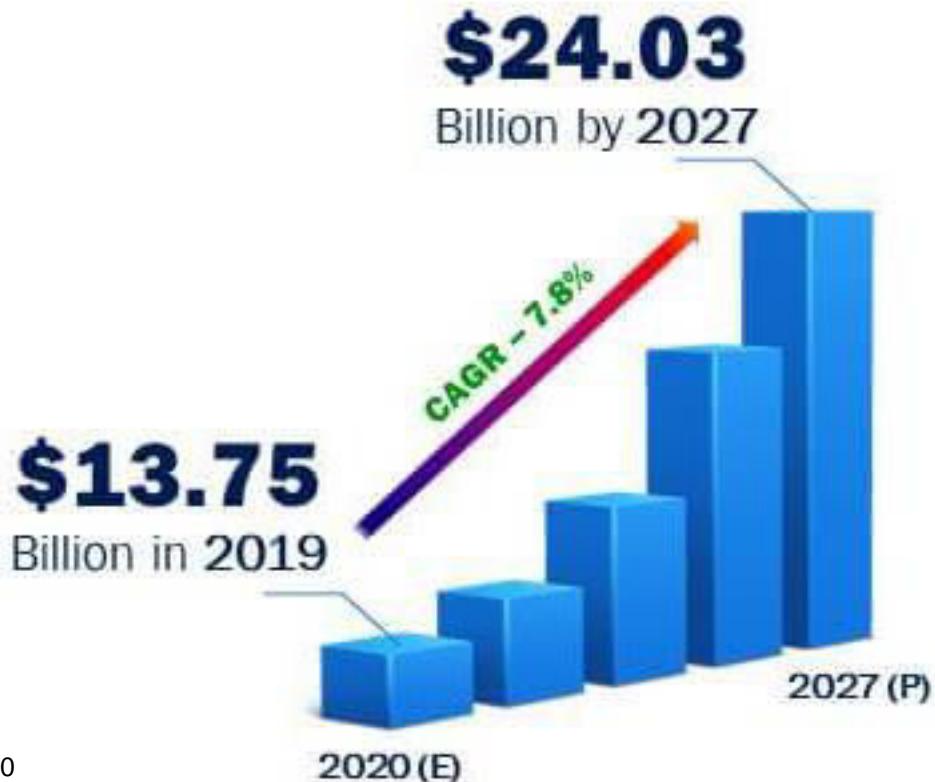


Image guided surgery  
Grimson et al., MIT

## Future of computer vision

- According to the market and markets report, the **computer vision** market is expected to rise to USD 17.4 billion by 2024 and 24.03 billion by 2027.
- The **vision-based** robotic system and application-specific **computer vision** systems are expected to revolutionize the workplace through its emerging technologies.

## Global Computer Vision Market, 2020-2027



## Conclusion:

- So, computer vision is a very promising field in modern technology and since it is still in a very young phase, we can expect a lot more development in upcoming years.