

Graduation Project

Project Overview:

The main idea behind our project is helping medical organizations and healthcare sector Meeting growing medical demands, improving operations and lower costs Through machine learning and deep learning techniques.

Machine learning and deep learning innovation can help healthcare practitioners predict, detect, diagnose and treat diseases more efficiently and with more precision and personalized care.

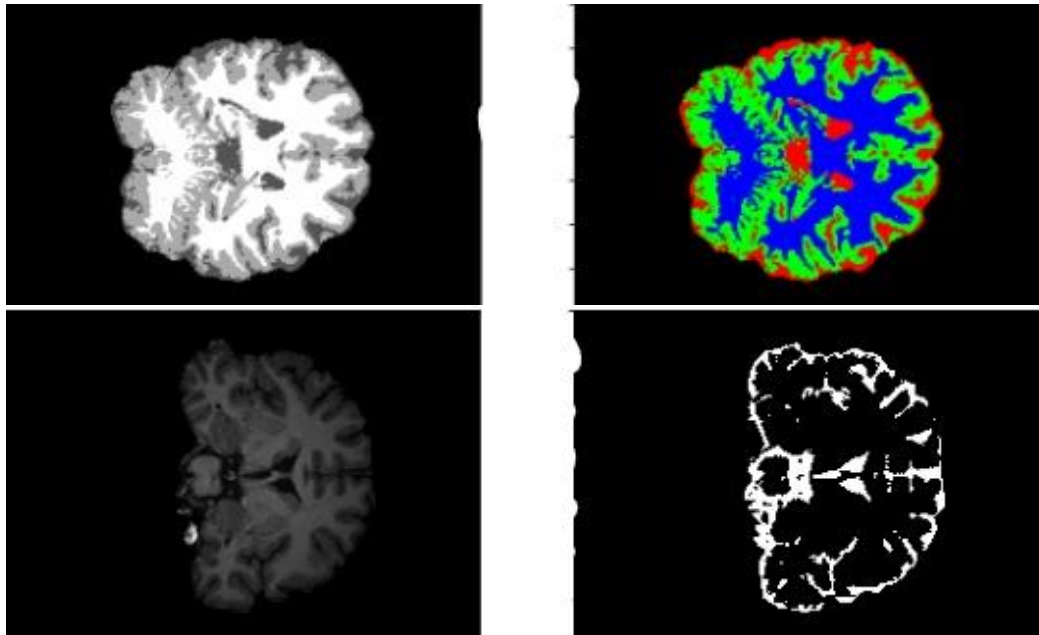
We will develop a website that offers a set of automated and managed medical services using machine learning and deep learning approaches such as segmentation of brain tissues, Pneumonia Diagnosis, heart diseases and more!

Services:

- Brain tissue segmentation

the goal of this service is to develop a deep learning approach for the segmentation of brain tissues. These segmentations are useful for measuring and visualizing anatomical structure but also analyze brain changes in case of disease like Alzheimer.

The process goes like the brain is extracted from the skull and the segmentation into 3 tissues (white matter, gray matter, csf)



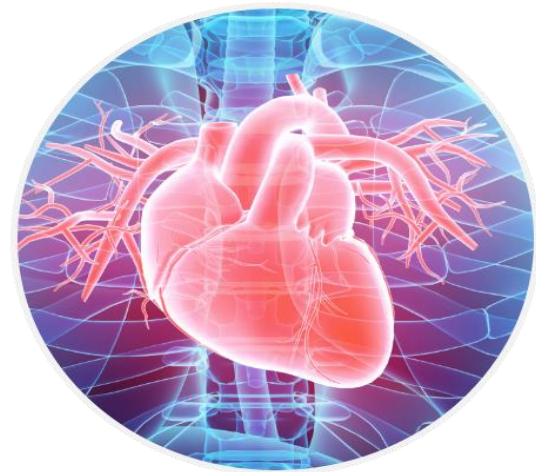
- **Pneumonia Diagnosis**

the goal of this service is to develop a deep learning approach to identify whether a patient is having Pneumonia from the x-ray image of their chest



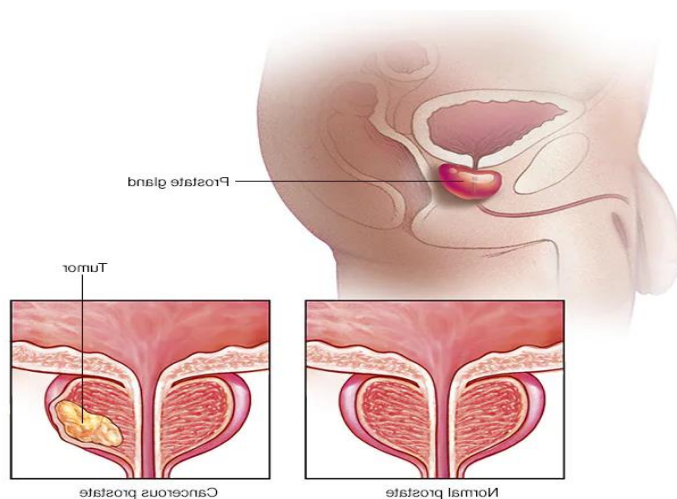
- **heart diseases**

the goal of this service is to develop a machine learning approach capable of predicting whether or not someone has heart diseases based on their medical attributes



- **Prostate cancer Predication**

Prostate cancer is cancer that occurs in the prostate ,a small walnut-shaped gland in men that produces the seminal fluid that nourishes and transports sperm.



Technologies:

Backend

- Django/ fast API
- PostgreSQL
- AWS
- Docker
- Kubernetes/ ECS / EKS
- Microservices

Frontend

- Html
- CSS
- javascript
- react

Machine Learning

- Python
- Deep learning
- Pandas
- Matplotlib
- numpy
- Scikit-learn
- Tensorflow

