



Progressive Education Society's  
Modern College of Engineering, Pune-05.  
Department of Artificial Intelligence &  
Machine Learning

---

218559 - Project Based Learning-II  
Second Year [Semester-IV]  
Academic Year - 2022-2023  
Project Synopsis

**A) Team Members:**

1. Vishal Pattar	23550
2. Satish Sharma	23554
3. Tanishk Patil	23549
4. Gauri Raykar	23553
5. Laxman Pajai	23542
6. Piyush Patil	23545

**B) Title of the Project:**

AI-SmartDiagnosis

**C) Problem Definition:**

- Medical practitioners often face challenges in accurately diagnosing and treating patients due to the complexity of medical conditions and the limited amount of time they have with each patient.
- AI can analyze vast amounts of patient data and provide doctors with more accurate and timely diagnoses and treatment options.

**D) Introduction:**

- Artificial Intelligence (AI) has the potential to transform the healthcare sector by enabling more accurate and personalized care, improving efficiency, and reducing costs.
- AI models can be trained to analyze vast amounts of data, including medical records, diagnostic images, and genomic data, to identify patterns and insights that may not be immediately apparent to human doctors.
- This can lead to earlier detection of diseases, more accurate diagnoses, and personalized treatment plans tailored to individual patients.
- Additionally, AI models can assist healthcare providers in drug development, operational efficiency, and resource allocation.
- The use of AI in healthcare is rapidly expanding and holds immense promise for improving patient outcomes and reducing healthcare costs.

#### **E) Software Requirements:**

- Programming Language:
  - ✓ Python
  - ✓ Javascript
- Libraries and Frameworks:
  - ✓ TensorFlow
  - ✓ Keras
  - ✓ Scikit-learn
- Deployment tools:
  - ✓ Google Cloud Platform
  - ✓ Google Drive
  - ✓ Colab
- Visualization:
  - ✓ Tkinter
  - ✓ Flask
  - ✓ Pandas
  - ✓ Web Development

#### **F) Hardware Requirements:**

- GPU: For high Performance
- RAM: 16 GB

#### **G) Technologies used:**

- Cloud computing
- Machine Learning
- Deep Learning
- Computer Vision

#### **H) Application Domain: Healthcare**

#### **I) Conclusion**

- In conclusion, the application of AI models in the healthcare sector has the potential to revolutionize the way healthcare is delivered.
- While there are still challenges to be addressed, such as ethical considerations, data privacy, and regulatory compliance,
- the promise of AI in healthcare is vast and will undoubtedly lead to a brighter future for patients and healthcare providers alike.
- 

#### **J) References/Bibliography**

1. "Artificial intelligence for diagnosis of lung cancer: a systematic review and meta-analysis" by Xueqin Chen, Zhihong Chen, Zhiyuan Huang, Wei Chen, Yanling Jin
  - Journal: European Radiology, 2019
  - Link: <https://link.springer.com/article/10.1007/s00330-019-06026-4>

2. "Artificial Intelligence in Healthcare: Past, Present and Future" by Mohammed Al-Hashimi, Mohamed Khalifa, Salah Al-Fedaghi
  - Journal: Journal of Medical Systems, 2018
  - Link: <https://link.springer.com/article/10.1007/s10916-018-0964-4>
3. "AI-powered tool helps doctors diagnose prostate cancer"
  - Article: The Guardian, 2021
  - Link: <https://www.theguardian.com/society/2021/feb/22/ai-powered-tool-helps-doctors-diagnose-prostate-cancer>
4. "Implementation of Artificial Intelligence in Disease Prediction and Healthcare System- A Survey" by Siddarama R. Patil, Farha Deeba
  - Journal: Innovations in Power and Advanced Computing Technologies (i-PACT), 2021
  - Publisher: Institute of Electrical and Electronics Engineers
  - Link: <https://ieeexplore.ieee.org/document/9696698>
5. "Applications of Artificial Intelligence in Healthcare" by Starlin Daniel Raj, Karthiban
  - Journal: International Conference on Computer Communication and Informatics (ICCCI), 2022
  - Publisher: Institute of Electrical and Electronics Engineers
  - Link: <https://ieeexplore.ieee.org/document/9741057/>