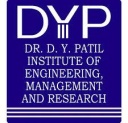
**Dr. D. Y. Patil Pratishthan’s**

**DR. D. Y. PATIL INSTITUTE OF ENGINEERING, MANAGEMENT & RESEARCH**

**Approved by A.I.C.T.E, New Delhi , Maharashtra State Government, Affiliated to Savitribai Phule Pune University**

Sector No. 29, PCNTDA , Nigidi Pradhikaran, Akurdi, Pune 411044. Phone: 020–27654470, Fax: 020-27656566  
Website :[www.dypiemr.ac.in](http://www.dypiemr.ac.in) Email : [principal.dypiemr@gmail.com](mailto:principal.dypiemr@gmail.com)

FIRST YEAR ENGINEERING

PROJECT WORK DIARY

2020-2021

SEMESTER II

VISION

**To strive for excellence by providing quality technical education & facilitate research for the welfare of society.**

MISSION

1. **To educate students with strong fundamentals by providing conducive environment.**
2. **To inculcate research with creativity & innovation.**
3. **To promote industry-institute collaboration & prepare students for life long learning in context of technological change.**
4. **To strengthen leadership, team-work, professional & communication skills and ethical standards**

INSTITUTE OBJECTIVES

1. **To produce technically competent, quality conscious engineers.**
2. **To develop functionally suitable and conducive environment for students and staff for academic purpose.**
3. **To develop the departments into the centre of excellence.**
4. **To develop post graduate centers for all branches.**
5. **To implement Effective & Efficient Teaching–Learning practices.**
6. **To increase percentage of campus placements.**
7. **To strengthen industry institute interaction.**
8. **Help students for personality development and career guidance.**
9. **To develop the students and staff to get international Acclamation.**
10. **To develop an e-learning campus.**

|  |  |
| --- | --- |
| **COURSE OBJECTIVES** | |
| CO1 | **To emphasizes learning activities that are long-term, interdisciplinary and student-centric.** |
| CO2 | **To inculcate independent learning by problem solving with social context.** |
| CO3 | **To engages students in rich and authentic learning experiences.** |
| CO4 | **To provide every student the opportunity to get involved either individually or as a group so as to develop team skills and learn professionalism.** |

|  |  |  |
| --- | --- | --- |
| **COURSE OUTCOMES** | | |
| CO1 |  | **Project based learning will increase their capacity and learning through shared cognition.** |
| CO2 |  | **Students able to draw on lessons from several disciplines and apply them in practical way.** |
| CO3 |  | **Learning by doing approach in PBL will promote long-term retention of material and replicable skill, as well as improve teachers' and students' attitudes towards learning.** |
|  |  |  |

|  |
| --- |
| **Examination Scheme** |
| Project based Learning Subject Code:110013  TW:25 M  PR : 50 M |
|  |

**Practical Work**

Practical Work under project submitted by students shall include

* Work Diary: Work Diary maintained by group and countersigned by the guide weekly.
* The synopsis shall be signed by the each student in the group, approved by the guide (along with external guide) and endorsed by the Head of the Department
* Presentation: The group has to make a presentation in front of the faculty of department at the end of semester.

**Content of work diary**

The contents of work diary shall reflect the efforts taken by project group for

* Searching suitable project work
* Brief report preferably on books or literature surveyed to select and bring up the project.
* Brief report of feasibility studies carried to implement the conclusion.
* Rough Sketches! Design Calculations
* Synopsis

**Important Notes**

Project group should continue maintaining a diary for project and should write

(a) Book referred

(b) Person contacted

(c) Computer work done

(d) Paper referred

(e) Creative thinking.

* The Diary along with Project Report shall be assessed at the time of practical examination.
* One copy of the report should be submitted to Institute! Department, One copy to Guide and one copy should remain with each student of the project group.

**Project Report**

Project report should be of 30 to 40 pages. The report must be spiral bound. For standardization of the project reports the following format should be strictly followed.

1 Page size : Trimmed A4

2 Top Margin : 1.00 Inches

3 Bottom Margin : 1.32 Inches

4 Left Margin : 1.5 Inches

5 Right Margin : 1.0 Inches

6 Para Text : Times New Roman 12 point font

7 Line Spacing : 1.5 Lines

8 Page Numbers : Right aligned at footer. Font 12 point Times New Roman

9 Headings : New Times Roman, 14 point, Boldface

10 Certificate

* All students should attach standard format of Certificate as described by the

Department.

* Certificate should be awarded to project group and not individual student of the group.
* Certificate should have signatures of Guide, Head of Department and Principal.

11 Index of Report

1. Title Sheet
2. Certificate
3. Acknowledgement
4. List of Figures
5. List of Photographs! Plates
6. List of Tables
7. Table of Contents
8. Introduction
9. Literature Survey/ Theory
10. Design/ Experimentation/ Fabrication/ Production/ Actual work carried out for the same.
11. Observation Results
12. Discussion on Results and Conclusion References

**Term work evaluation**

1. The project term work shall be evaluated on the basis of reviews. In semester reviews are to be taken and evaluated for total 25 marks.
2. The final Practical/ oral presentation shall be taken in front of external examiner and to be evaluated for 50 marks

**Oral Examination**

Practical /Oral examination shall be conducted with final presentation of the project. The distribution of marks shall be depends on

* Contribution of the student in the project work.
* Question/ Answer
* Applications for social and technical use.

**Recommended Parameters for Assessment, Evaluation and Weightage:**

* Idea Inception (5%)
* Outcome of PBL/Problem solving skills/solution provided/Final product (50%)
* Documentation (Gathering requirements, design & modeling, implementation/execution, use of technology and final report, other documents). (25%)
* Demonstration (Presentation, User Interface, Usability etc.)(10%)
* Awareness/consideration of Environment /Social/Ethics/safety measures /Legal aspects.(5%)

**PROJECT DETAILS**

Name of project partners:

1. Hrushikesh Kachgunde
2. Parth Ashtikar
3. Saniya Mulla
4. Rupesh Suryawanshi
5. Pratiksha Girbuva
6. Prajwal Kulkarni

Title of project: Pneumonia Detector

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of project guide: Mr Rohidas Mali

Name of project sponsor: None

Project Guide Project Coordinator HOD

**STUDENT’S DETAIL**

Name: Hrushikesh Kachgunde

Roll No.: 20226

Contact: +91 8605741008

Email: hrushiskachgunde@gmail.com

Permanent Address: N-1, Cidco Aurangabad (431003)

**STUDENT’S DETAIL**

Name: Parth Ashtikar

Roll No.: 20228

Contact: +91 9403231688

Email: parth12ashtikar@gmail.com

Permanent Address: D/7, Choudhary Nagar, Mantha Road, Jalna, Maharashtra

**STUDENT’S DETAIL**

Name: Saniya Mulla

Roll No.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Contact: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Permanent Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**STUDENT’S DETAIL**

Name: Rupesh Suryawanshi

Roll No.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Contact: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Permanent Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**STUDENT’S DETAIL**

Name: Prajwal Kulkarni

Roll No.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Contact: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Permanent Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**STUDENT’S DETAIL**

Name: Pratiksha girbuva

Roll No.: 20229

Contact: +91 8554885155

Email: pratikshagiribuva863@gmail.com

Permanent Address: At post chuye, karveer Dist:-Kolhapur

**PROJECT ABSTRACT**

**Project Title:** Pneumonia Detector

**Project Domain:** Artificial Intelligence

**Abstract**: Pneumonia is an infection that inflames the air sacs in one or both lungs. The air sacs may fill with fluid or pus (purulent material), causing cough with phlegm or pus, fever, chills, and difficulty breathing. A variety of organisms, including bacteria, viruses and fungi, can cause pneumonia.

The normal chest X-ray depicts clear lungs without any areas of abnormal opacification in the image. Bacterial pneumonia typically exhibits a focal lobar consolidation, in this case in the right upper lobe, whereas viral pneumonia manifests with a more diffuse ‘‘interstitial’’ pattern in both lungs.

Chest X-ray images (anterior-posterior) were selected from retrospective cohorts of pediatric patients of one to five years old from Guangzhou Women and Children’s Medical Center, Guangzhou. All chest X-ray imaging was performed as part of patients’ routine clinical care.

For the analysis of chest x-ray images, all chest radiographs were initially screened for quality control by removing all low quality or unreadable scans. The diagnoses for the images were then graded by two expert physicians before being cleared for training the AI system. In order to account for any grading errors, the evaluation set was also checked by a third expert.

|  |
| --- |
| **LOGBOOK – Semester II** |

**Project Planning and Schedule for FE – Semester II**

|  |  |  |
| --- | --- | --- |
| **Fortnight No.** | **Scheduled Activity** | **Remarks** |
| **1.** | **INTRODUCTION TO PBL AND PROBLEM IDNETIFICATION** |  |
| **2.** | **SELECTION OF PROJECT TOPIC BASED ON SOCIAL AND ENVIOMENTAL PROBLEM** |  |
| **3.** | **ANALYSIS AND FINDING ROOT CAUSES OF PROBLEM** |  |
| **4.** | **DEVLOPMENT OF PROJECT PROTO TYPE AND MODEL** |  |
| **5.** | **COMPAIRING OUR PROJECT WITH EXISTING SOLUTION FOR GIVEN PROBLEM** |  |
| **6.** | **PRESENTATION OF PROJECT IDEA** |  |
| **7.** | **FINAL GROUP PRESENTATION USING PPT AND PDF** |  |
| **8.** | **IMPLIMENTING SUGGESTION GIVEN BY PROJECT GUID AND COLLEGUES** |  |
| **9.** |  |  |
| **10.** |  |  |

**FE – Semester II**

**Sem. I: Fortnight – 01**

**Date:** From \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Progress Achieved** | **Guide Remarks** |
| Decided a project in AI. |  |
| Discussed on garbage classification. |  |
| Food diet consciousness |  |
| Pneumonia detection |  |
|  |  |

**Signature: Project guide:**

Team partner 1: Signature:

Team partner 2: Date:

Team partner 3:

Team partner 4:

Team partner 5:

Team partner 6:

**FE – Semester II**

**Sem. I: Fortnight – 02**

**Date:** From \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Progress Achieved** | **Guide Remarks** |
| Final with Pneumonia detection |  |
| Getting the data. |  |
| Discussed on problems we might face in reaching the end goal. |  |
|  |  |
|  |  |

**Signature: Project guide:**

Team partner 1: Signature:

Team partner 2: Date:

Team partner 3:

Team partner 4:

Team partner 5:

Team partner 6:

**FE – Semester II**

**Sem. I: Fortnight – 03**

**Date:** From \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Progress Achieved** | **Guide Remarks** |
| Began with cleaning data. |  |
| Worked on how to use grayscale images. |  |
| Thought and searched for color-scale images. |  |
| Had insights of the data. |  |
|  |  |

**Signature: Project guide:**

Team partner 1: Signature:

Team partner 2: Date:

Team partner 3:

Team partner 4:

Team partner 5:

Team partner 6:

**FE – Semester II**

**Sem. I: Fortnight – 04**

**Date:** From \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Progress Achieved** | **Guide Remarks** |
| Started with pure convolutional models. |  |
| Accuracy received is just OK but not that good. |  |
| Tried deeper models wtth data augmentation layers added. |  |
|  |  |
|  |  |

**Signature: Project guide:**

Team partner 1: Signature:

Team partner 2: Date:

Team partner 3:

Team partner 4:

Team partner 5:

Team partner 6:

**FE – Semester II**

**Sem. I: Fortnight – 05**

**Date:** From \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Progress Achieved** | **Guide Remarks** |
| Used Efficientnetb0 and received an accuracy of 90% |  |
| Worked on the wrongly classified images and increasing the accuracy. |  |
| Tried a failed attempt of deploying the model in the browser. |  |
| Work on PPT began. |  |
|  |  |

**Signature: Project guide:**

Team partner 1: Signature:

Team partner 2: Date:

Team partner 3:

Team partner 4:

Team partner 5:

**FE – Semester II**

**Sem. I: Fortnight – 06**

**Date:** From \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Progress Achieved** | **Guide Remarks** |
| Used streamlit to deploy our app. |  |
| PPT is done. |  |
| Report is done. |  |
| Ready with presentation. |  |
|  |  |

**Signature: Project guide:**

Team partner 1: Signature:

Team partner 2: Date:

Team partner 3:

Team partner 4:

Team partner 5:

Team partner 6:

**LOGBOOK – Semester II**

**Project Planning and Schedule for FE – Semester II**

|  |  |  |
| --- | --- | --- |
| **Fortnight No.** | **Scheduled Activity** | **Remarks** |
| **1.** |  |  |
| **2.** |  |  |
| **3.** |  |  |
| **4.** |  |  |
| **5.** |  |  |
| **6.** |  |  |
| **7.** |  |  |
| **8.** |  |  |
| **9.** |  |  |
| **10.** |  |  |

Rough Sketches / Calculations

Rough Sketches / Calculations

Rough Sketches / Calculations

Rough Sketches / Calculations

Rough Sketches / Calculations

|  |  |  |
| --- | --- | --- |
| Sr. No. | Books / Papers / Websites Referred | Remark |
|  | https://data.mendeley.com/datasets/rscbjbr9sj/2 |  |
|  | https://arxiv.org/pdf/1905.11946.pdf |  |
|  | https://www.tensorflow.org/ |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sr. No. | Company visited  itedVisited | Contact person | Remark | Sign. |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

|  |  |  |
| --- | --- | --- |
| Sr. No. | Software Work done | Remark |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**SUMMARY**

Pneumonia is an infection that inflames the air sacs in one or both lungs. The air sacs may fill with fluid or pus (purulent material), causing cough with phlegm or pus, fever, chills, and difficulty breathing. A variety of organisms, including bacteria, viruses and fungi, can cause pneumonia.

The normal chest X-ray depicts clear lungs without any areas of abnormal opacification in the image. Bacterial pneumonia typically exhibits a focal lobar consolidation, in this case in the right upper lobe, whereas viral pneumonia manifests with a more diffuse ‘‘interstitial’’ pattern in both lungs.

Chest X-ray images (anterior-posterior) were selected from retrospective cohorts of pediatric patients of one to five years old from Guangzhou Women and Children’s Medical Center, Guangzhou. All chest X-ray imaging was performed as part of patients’ routine clinical care.

For the analysis of chest x-ray images, all chest radiographs were initially screened for quality control by removing all low quality or unreadable scans. The diagnoses for the images were then graded by two expert physicians before being cleared for training the AI system. In order to account for any grading errors, the evaluation set was also checked by a third expert.

**CERTIFICATE OF COMPLETION**

**This certifies that**

1. Hrushikesh Kachgunde

2. Parth Ashtikar

3. Saniya Mulla

4. Pratiksha Girbuva

5. Rupesh Suryawanshi

6. Prajwal Kulkarni

**have successfully completed their project work titled**

**Pneumonia Detector**

**in partial fulfillment of First Year Engineering for the academic year 2020-21.**

**Project Guide Project Coordinator HOD**