MINI PROJECT LOGBOOK

(CSM501: Mini Project 2 A)

GROUP MEMBERS

1. Aryan Girish Raje (D12A-51)
2. Arya Girish Raje (D12A-50)
3. Ishita Sudhir Marathe (D12A-41)
4. Prasad Kishor Lahane (D12A-36)

Dr. Mrs.Gresha Bhatia

Deputy H.O.D, CMPN

Department of Computer Engineering

Vivekanand Education Society's Institute of Technology,

An Autonomous Institute affiliated to University of Mumbai

HAMC, Collector's Colony, Chembur,

Mumbai-400074

University of Mumbai (AY 2023-24)

INSTITUTE VISION & MISSION

VISION:

To create a vibrant knowledge oriented environment with innovative teaching practices and to inculcate a tradition of socially conscious application of technology.

MISSION:

- To inculcate a culture of value based education.
- To enthuse students to develop in an ambient environment of caring and of sharing information.
- To enable students to work towards excellence in their chosen field with a professional bent of mind.

COMPUTER ENGINEERING DEPARTMENT

VISION:

To reach international standards by empowering students with Computing skills and cutting edge technology

MISSION:

- To sustain excellence in teaching and research and create center of excellence
- To provide broad Educational and Research experiences through interdisciplinary and industrial collaboration programs.
- To prepare students to enter the world of computing and make them ready for productive employment in the public or private sectors, enhance their entrepreneurship skills and motivate them to pursue advanced degrees.

PROGRAM EDUCATIONAL OBJECTIVES (PEO's)

I	To provide students with a solid foundation in their core concepts of mathematical, scientific and computer engineering fundamentals required to comprehend, analyze and design solutions for real life problems.
II	To inculcate in students, a balanced outlook with professional and ethical attitude, develop effective communication skills, teamwork and leadership qualities with multidisciplinary approach.
III	To prepare students to excel in postgraduate programs through an excellent academic environment and make them ready for productive employment in the public or private sectors and provide lifelong learning experience.
IV	To provide broad educational and research experience through interdisciplinary and industry centric programs.

PROGRAM OUTCOMES (POs)

Program Outcome Code	Program Outcome Description
PO1	Basic Engineering knowledge: An ability to apply the fundamental knowledge in mathematics, science and engineering to solve problems in Computer engineering.
PO2	Problem Analysis: Identify, formulate, research literature and analyze computer engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and computer engineering and sciences
PO3	Design/ Development of Solutions: Design solutions for complex computer engineering problems and design system components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations.

PO4	Conduct investigations of complex engineering problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of information to provide valid conclusions.
PO5	Modern Tool Usage: Create, select and apply appropriate techniques, resources and modern computer engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	The Engineer and Society: Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to computer engineering practice.
PO7	Environment and Sustainability: Understand the impact of professional computer engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of computer engineering practice.
PO9	Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams and in multidisciplinary settings.
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions.
PO11	Project Management and Finance: Demonstrate knowledge and understanding of computer engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	Life-long Learning: Recognize the need for and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1	**Professional Skills** - The ability to develop programs for computer based systems of varying complexity and domains using standard practices.
PSO2	**Successful Career** - The ability to adopt skills, languages, environment and platforms for creating innovative career paths, being successful entrepreneurs or for pursuing higher studies.

STUDENT INFORMATION

Project Title: Resilient Rivers- Empowering Flood-Free Futures

	Student 1	Student 2	Student 3	Student 4
Roll No.	51	50	41	36
Name	Aryan Girish Raje	Arya Girish Raje	Ishita Sudhir Marathe	Prasad Kishor Lahane
Class with Division	D12A	D12A	D12A	D12A
Contact No.	8104982720	8104965750	9136971322	7887412777
E-mail	d2021.aryan.raje@ves.ac.in	d2021.arya.raje@ves.ac.in	2021.ishita.marathe@ves.ac.in	d2021.prasad.lahane@ves.ac.in
Address	1202, Kanchanganga Tower, Opp. Vartak Nagar Police Station, Vartak Nagar, Thane West 400606	1202, Kanchanganga Tower, Opp. Vartak Nagar Police Station, Vartak Nagar, Thane West 400606	B01,Shanti Sadan, Sector 15 Vashi Navi Mumbai 400703	Flat no. 203, Thakur Nest Co-op Housing Society, Sector- 20, Nerul(West), Navi Mumbai

INSTRUCTIONS TO STUDENTS:

1. The logbook must be submitted to the mentor or Co-Mentor for verification and evaluation of project activities at least once in a week.
2. Logbook duly signed by the guide must be submitted with a project report for evaluation at the end of semester to the department.

DECLARATION

I declare that this project represents my ideas in my own words and wherever others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my project work. I promise to maintain minimum 75% attendance, as per the University of Mumbai norms. I understand that any violation of the above will be cause for disciplinary action by the Institute.

Yours Faithfully

1. Aryan Girish Raje (D12A-51)
2. Arya Girish Raje (D12A-50)
3. Ishita Sudhir Marathe (D12A-41)
4. Prasad Kishor Lahane (D12A-36)

(Signature of Students)

Letter of Acceptance

I undersigned, **Dr. Mrs.Gresha Bhatia** working in the Computer Engineering department, willing to guide the project titled **Resilient Rivers- Empowering Flood-Free Futures** for the Mini Project 2 A Semester V respectively for the **Academic Year 2023-24.** The names of the students are:

1. **Aryan Girish Raje**
2. **Arya Girish Raje**
3. **Ishita Sudhir Marathe**
4. **Prasad Kishor Lahane**

(Dr. Mrs.Gresha Bhatia)   (Mrs. Priya RL)   (Dr. Nupur Giri)

COURSE OUTCOMES

CO No.	COURSE OUTCOME	POs covered	PSOs covered
CO1	Identify problems based on societal /research needs.	PO1, PO2,PO4	PSO1,PSO2
CO2	Apply Knowledge and skill to solve societal problems in a group.	PO1,PO2,PO4, PO5,PO6,PO8	PSO1,PSO2
CO3	Develop interpersonal skills to work as a member of a group or leader.	PO1,PO2,PO4, PO9,PO11	PSO1,POS2
CO4	Draw the proper inferences from available results through theoretical/ experimental/simulations.	PO1,PO2,PO4, PO5,PO6,PO12	PSO1,POS2
CO5	Analyze the impact of solutions in societal and environmental context for sustainable development.	PO2,PO3,PO4, PO7,PO12	PSO1,POS2
CO6	Use standard norms of engineering practices	PO1,PO2,PO4, PO12	PSO1
CO7	Excel in written and oral communication.	PO1,PO4,PO8, PO9,PO10,PO12	PSO1
CO8	Demonstrate capabilities of self-learning in a group, which leads to lifelong learning.	PO1,PO2,PO4, PO12	PSO1
CO9	Demonstrate project management principles during project work.	PO1,PO2,PO4, PO11,PO12	PSO1,POS2

CO-PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	2	-	2	-	-	-	-	-	-	-	-	1	1
CO2	2	2	-	2	3	2	-	2	-	-	-	-	2	1
CO3	1	1	-	2	-	-	-	-	3	3	-	-	1	1
CO4	2	1	-	1	2	2	-	-	-	-	-	2	2	1
CO5	-	2	1	2	-	-	3	-	-	-	-	1	1	2
CO6	1	2	-	1	-	-	-	-	-	-	-	2	2	-
CO7	1	-	-	1	-	-	-	3	2	2	-	1	1	-
CO8	1	3	-	3	-	-	-	-	-	-	-	2	1	-
CO9	1	1	-	2	-	-	-	-	-	-	2	2	1	2

SCHEDULE FOR MINI PROJECT

Date	Week	Contents	Remark	Guide Sign
08/01/24	1	Understanding Random Forest Model and researching papers about it.		
21/01/24	2	Conduct an extensive literature survey to review existing research, models, and methodologies related to flood prediction using random forest models.		
02/02/24	3	Identify key papers, relevant datasets, and best practices in the field.		
15/02/24	4	Schedule the first mentor meeting to discuss project goals, data collection progress, and initial insights.		
22/02/24	5	Based on the literature review and mentor feedback,started preprocessing the data.		
30/02/24	6	Preprocessed the data,cleaned it and made it available for analysis and further calculations.		
20/08/23	7	Perform Exploratory Data Analysis (EDA) to gain insights into the dataset. Created a basic UI framework.		
1/03/24	8	Tkinter UI successfully implemented and demonstrated .		
15/03/24	9	Conduct a review with the mentor to evaluate the project's overall progress, address any final concerns, and gather feedback.		
29/03/24	10	Based on feedback from the mentor and the reviewer,implemented a django website and a nodal officer login.		
12/04/24	11	Prepare comprehensive documentation, including the model architecture, data sources, and integration procedures.		

PROGRESS/ATTENDANCE REPORT

Title of the Project:	**Resilient Rivers: Empowering Flood-Free Futures**
Group No. 06	**Aryan Girish Raje** **Arya Girish Raje** **Ishita Sudhir Marathe** **Prasad Kishor Lahane**
Name of the Supervisor:	

Sr. No	Date	Attendance				Progress/Suggestion	Mapping		
		1	2	3	4		CO	PO	PSO
1	08/1/24	✓	✓	✓	✓	Understanding various problem statement and some suggestions by ma'am to take a particular project idea	CO1, CO2, CO3	PO1, PO2, PO4	PSO1, PSO2
2	21/1/24	✓	✓	✓	✓	Conduct an extensive review of flood prediction research using deep learning and data warehouse mining, with a focus on key papers, relevant datasets, and best practices.	CO1, CO2, CO3, CO9	PO1, PO2, PO4, PO9, PO11	PSO1, PSO2
3	2/2/24	✓	✓	✓	✓	Continue the literature survey, delving deeper into the research and Identify gaps and areas where your project can contribute to the field.	CO4, CO5, CO6, CO7, CO8	PO1, PO2, PO4, PO5, PO6, PO8, PO12	PSO1, PSO2
4	15/2/24	✓	✓	✓	✓	Gather historical weather data, river data, and any other relevant datasets (Narmada River Dataset)	CO4, CO5, CO6, CO7, CO8	PO1, PO2, PO4, PO5, PO6, PO12	PSO1, PSO2
5	21/2/24	✓	✓	✓	✓	Thorough research towards which ML model gives an accurate precision and accuracy.	CO5, CO7, CO8:	PO1, PO4, PO8, PO9,	PSO1

6	28/2/24	✓	✓	✓	✓	Based on the literature review and mentor feedback, choose the most suitable deep learning models and data warehouse mining techniques for flood prediction.	CO5, CO7, CO8	PO1, PO4, PO8, PO9, PO10, PO12	PSO1
7	1/3/24	✓	✓	✓	✓	Meeting with the mentor to go over the literature survey results, the methodologies we've pinpointed, and the reasons behind the selection.	CO4, CO5, CO6, CO7, CO8	PO1, PO2, PO4, PO5, PO6, PO8, PO12	PSO1, PSO2
8	7/3/24	✓	✓	✓	✓	Data set searching/creation on Kaggle or mockaroo.Agenda to find an appropriate dataset from the internet.	CO4, CO5, CO6, CO7, CO8	PO1, PO2, PO4, PO5, PO6, PO8, PO12	PSO1, PSO2
9	15/3/24	✓	✓	✓	✓	Integrating the various input parameters in the ML models selected.	CO3, CO5, CO7, CO8	PO1, PO2, PO4, PO5, PO6, PO8, PO12	PSO1, PSO2
10	23/3/24	✓	✓	✓	✓	Data preprocessing, cleaning and implementing basic models selected in CMD.	CO3, CO5, CO7, CO8	PO1, PO2, PO4, PO6, PO8, PO12	PSO1, PSO2
11	31/3/24	✓	✓	✓	✓	Final Presentation of the ML model selected and direction towards how to go further.	CO3, CO5, CO7, CO8	PO1, PO2, PO4, PO5, PO8, PO12	PSO1, PSO2

Sign of the Supervisor

EXAMINER'S FEEDBACK FORM

Name of External examiner:_____

College of External examiner:_____

Name of Internal examiner:_____

Date of Examination:_____/____/_____

No. of students in project team: 4

Availability of separate lab for the project: Yes / No

Student Performance Analysis (Put Tick as per your Observation)

Excellent (3)	Very Good (2)	Good (1)			
Sr. No.	**Observation**		**(3)**	**(2)**	**(1)**
1	Quality of problem and Clarity				
2	Innovativeness in solutions				
3	Cost effectiveness and Societal impact				
4	Full functioning of working model as per stated requirements				
5	Effective use of skill sets				
6	Effective use of standard engineering norms				
7	Contribution of an individual's as member or leader				
8	Clarity in written and oral communication				
9	Overall performance				

o Can the same mini project extend to next semester by adding new objectives/ideas? (Yes/ No)

o If yes, suggest new Innovative Technique/Idea/ objectives related to this project.

Signature of External Examiner   **Signature of Internal Examiner**