DATTA MEGHE COLLEGE OF ENGINEERING, AIROLI, NAVI MUMBAI



Department of Information Technology

BE MAJOR - PROJECT LOGBOOK

BRAIN TUMOR SEGMENTATION USING DEEP LEARNING

GROUP MEMBERS

1. Saumya Prasad
2. Pratik Turkar

3. Muntzar Sayyed

4. Ayush Tambe

Supervisor / Guide

Prof. Rashmi Jolhe

**University of Mumbai**

(Academic Year 2022 - 23)

# INSTITUTE VISION & MISSION

## VISION:

To create values-based technocrats to fit in the world of work and research.

## MISSION:

To adopt the best practices for creating competent human beings to work in the world of technology and

research.

# INFORMATION TECHNOLOGY DEPARTMENT

## VISION:

To develop and foster students for successful career in the dynamic field of Information Technology.

## MISSION:

* To create and disseminate knowledge through research, teaching & learning and to enhance society in meaningful and sustainable ways.
* To impart suitable environment for students and staff to showcase innovative ideas in the field of IT.
* To bridge the curriculum gap by facilitating effective interaction among industry and Staff/Students.

# PROGRAM EDUCATIONAL OBJECTIVES (PEO's)

**PEO I:** To prepare graduates with the ability to communicate and work effectively and successfully in multi - disciplinary teams in order to succeed in diverse range of careers as engineers, consultants, and entrepreneurs.

**PEO II:** To prepare graduates with the ability to apply their skills and concepts acquired to continue further education in Information Technology and interdisciplinary areas to emerge as researchers, domain experts, and educators.

**PEO III:** To prepare graduates with ability of life-long learning to innovate in ever-changing global economic and technological environments of the current era.

**PEO IV:** To prepare graduates with the ability to function ethically and responsibly with good cultural values and integrity which would enable them to apply the best principles and practices of Information Technology towards the society.

# PROGRAM OUTCOMES (POs)

|  |  |
| --- | --- |
| **PO's** | **OUTCOMES** |
| PO1 | Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. |
| PO2 | Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences,and engineering sciences. |
| PO3 | Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. |
| PO4 | Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. |
| PO5 | Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modellingto complex engineering activities with an understanding of the limitations. |
| PO6 | The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. |
| PO7 | Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development |
| PO8 | Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. |
| PO9 | Individual and teamwork: 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 eports and design documentation, make effective presentations, and give and receive clear instructions. |
| PO11 | Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these toone’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 life-long learning in the broadest context of technological change. |

**PROGRAM SPECIFIC OUTCOMES (PSOs)**

|  |  |
| --- | --- |
| PSO1 | Apply Core Information Technology knowledge to develop stable and secure IT system |
| PSO2 | App Design, IT infrastructures for an enterprise using concepts of best practices in information Technology and security domain. |
| PSO3 | Ability to work in multidisciplinary projects and make it IT enabled by adapting latest trends and technologies like Analytics, Blockchain, Cloud, Data science |

**STUDENT INFORMATION**

**Project Title: Brain Tumor Segmentation Using Deep Learning**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Student 1** | **Student 2** | **Student 3** | **Student 4** |
| **Student ID** | 2019FHIT040 | 2019FHIT080 | 2020DSIT019 | 2019FHIT049 |
| **Name** | Saumya Prasad | Pratik Turkar | Muntzar Sayyed | Ayush Tambe |
| **Class with Division** | BE IT B | BE IT B | BE IT B | BE IT B |
| **Contact No.** | 9892680554 | 7507997881 | 8693031334 | 90757 96680 |
| **E-mail** | saumya.prasad460@gmail.com | pratikpgt@gmail.com | muntzarsayyed@gmail.com | ayushtambe2943@gmail.com |
| **Address** | 1203, Bluenile Bldg, Riverdale Society, Godrej Hill, Kalyan (W) - 421301 | A/403, Ritu World, Barrage Road, Badlapur West, Thane.  421503 | Room 206 Bldg No 11A Sindhu Soc. Vikhroli West Parskite Mumbai - 400079 | Plot no 1902 Shiv colony Galli no 4  Sector 1, Airoli, Navi Mumbai |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# INSTRUCTIONS TO STUDENTS:

1. The logbook must be submitted to the Guide or Co-Guide for verification and evaluation of project activities at least once in a week.
2. Log book duly signed by guide must be submitted with 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 without plagiarism 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. Saumya Prasad

2. Pratik Turkar

3. Muntzar Sayyed

4. Ayush Tambe

**(Date & Signature of Students**)

# Letter of Acceptance

I undersigned, Dr. / Prof. Rashmi Jolhe working in Information

Technology Department, willing to guide the project titled **Brain Tumor Segmentation Using**

**Deep Learning**

For the Major - Project-1 (A & B) Semester VII respectively for the Academic Year 2022-23.

The names of the students are:

1. Saumya Prasad

2. Pratik Turkar

3. Muntzar Sayyed

4. Ayush Tambe

**(Project Guide) (Major - Project Coordinator) (HOD - Information Technology)**

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# COURSE OUTCOMES

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CO**  **No.** | **COURSE OUTCOME** | | **POs covered** | **PSOs**  **covered** |
| CO1 | Identify problems based on societal /research needs. Apply Knowledge and skill to solve societal problems in a group. | PO1, PO2, PO3, PO4, PO6, PO7, PO8 | | PSO1 |
| CO2 | Develop interpersonal skills to work as member of a group or leader. | PO9, PO10 | | PSO3 |
| CO3 | Draw the proper inferences from available results through theoretical / experimental / simulations. Analyze the impact of solutions in societal and environmental context for sustainable development. | PO4, PO5, PO6, PO7. | | PSO1 |
| CO4 | Use standard norms of engineering practices.  Excel in written and oral communication. | PO5, PO8, PO10, PO12 | | PSO2 |
| CO5 | Demonstrate capabilities of self-learning in a group, which leads to lifelong learning. | PO8, PO9, PO11,  PO12 | | PSO3 |
| CO6 | Demonstrate project management principles during project work. | PO8, PO11, PO12 | | PSO2, PSO3 |

**CO-PO & CO-PSO MAPPING**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
| CO1 | 2 | 3 | 2 | 2 | - | 1 | 2 | 1 | - | - | - | - | 2 | - | - |
| CO2 | - | - | - | - | - | - | - | - | 2 | 2 | - | - | - | - | 2 |
| CO3 | - | - | - | 2 | 2 | 3 | 2 | 1 | - | - | - | - | 3 | - | - |
| CO4 | - | - | - | - | 2 | - | - | 1 | - | 2 | - | 2 | - | 2 | - |
| CO5 | - | - | - | - | - | - | - | 1 | 2 | - | 2 | 2 | - | - | 3 |
| CO6 | - | - | - | - | - | - | - | 1 | - | - | 2 | 2 | - | 3 | 3 |

# SCHEDULE FOR MAJOR PROJECT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date** | **Week** | **Contents** | **Remark** | **Guide Sign** |
| 01/07/2022 | 1 | Formed the group of 4 team members |  |  |
| 15/07/2022 | 2 | Researching about the Project topics |  |  |
| 21/07/2022 | 3 | Finalizing the project with our guide |  |  |
| 29/07/2022 | 4 | Collected and gained information on the project topic |  |  |
| 05/08/2022 | 5 | Prepared presentation on basic level taking into consideration the template provided by the guide. |  |  |
| 19/08/2022 | 6 | Finalized language to be used for our project |  |  |
| 22/08/2022 | 7 | Made an architecture of the work flow of the project. |  |  |
| 02/09/2022 | 8 | Distributed the work accordingly amongst team members. |  |  |
| 16/09/2022 | 9 | Studied various literature surveys and understood their models |  |  |
| 30/09/2022 | 10 | Several studies were carried out for the integration of the project. |  |  |
| 04/11/2022 | 11 | Final Presentation 1 |  |  |

**PROGRESS / ATTENDANCE REPORT**

|  |  |
| --- | --- |
| Title of the Project: **Brain Tumor Segmentation Using Deep Learning** | |
| Group No. | Name of Student 1: Saumya Prasad |
| Name of Student 2: Pratik Turkar |
| Name of Student 3: Muntzar Sayyed |
| Name of Student 4: Ayush Tambe |
| Name of the Supervisor / Guide: Dr. / Prof. Rashmi Jolhe | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sr. No | Date | Attendance | | | | Progress/Suggestion | Mapping | | |
|  |  | 1 | 2 | 3 | 4 |  | CO | PO | PSO |
| 1 | 22/07/22 | P | P | P | P | Discussed and finalized the topic of project | 01,05,  06 | 02,03,  04,07,  08,09,  11,12 | 01,02,0  3 |
| 2 | 29/07/22 | P | P | A | P | Prepared prototype and plans of the development | 01 | 02,03,  04,07 | 01 |
| 3 | 05/07/22 | P | P | P | A | Prepared project logic for certain sections | 02 | 01,04,  05,06 | 01,02 |
| 4 | 12/08/22 | A | P | P | P | PRESENTATION - I | 05,06 | 08,09,  11,12,  04,08 | 02,03 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | 19/08/22 | P | A | P | P | Prepared Portions of Frontend with Html,Css | 02 | 01,04,  05,06 | 01,02 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6 | 26/08/22 | P | P | P | P | Created APIs with JavaScript  And created Home page | 02 | 01,04,  05,06 | 01,02 |
| 7 | 09/09/22 | P | P | P | P | Developed Deep Learning models | 02 | 01,04,  05,06 | 01,02 |
| 8 | 16/09/22 | P | P | P | P | Implemented and integrated Machine Learning models | 02 | 01,04,  05,06 | 01,02 |
| 9 | 23/09/22 | P | P | P | P | Integrated Backend and Frontend | 03 | 05,06 | 01,02 |
| 10 | 30/09/22 | P | P | P | P | Testing of the application | 03 | 05,06 | 01,02 |
| 11 | 10 / 10  /22 | P | P | P | P | PRESENTATION - II | 03 | 05,06 | 01,02 |
| 12 | 17/10/22 | P | P | P | P | Project Deployment and Testing, Documentation | 05,06 | 08,09,  11,12,  04,08 | 02,03 |

**Name, Date & Sign of the Supervisor / Guide**

# REVIEW - I FORM

Group No: Title of Major - Project: Brain Tumor Segmentation Using Deep Learning Date of Review-I: No. of students in project team: 4

**Student Major - Project 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 | Literature Survey |  |  |  |
| 3 | Innovativeness in solutions |  |  |  |
| 4 | Feasibility Of the Project |  |  |  |
| 5 | Usage of technology |  |  |  |
| 6 | Cost effectiveness and Societal impact |  |  |  |
| 7 | Overall Presentation & Performance |  |  |  |
| **Comments:** |  | | | |

**Project Guide & Panel Members Signature:** 1)

2)

3)

## Name, Date & Signature Name, Date & Signature

**Project Coordinator HOD - Information Technology**

# REVIEW - II FORM

Group No: Title of Major - Project: Brain Tumor Segmentation Using Deep Learning Date of Review-II: No. of students in project team: 4

**Student Major - Project Performance Analysis** (Put Tick as per your Observation)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Excellent (3) Very Good (2) Good (1) | | | | |
| **Sr. No.** | **Observation** | **(3)** | **(2)** | **(1)** |
| 1 | Usage of effective skill sets |  |  |  |
| 2 | Design and Implementation |  |  |  |
| 3 | Testing and Analysis |  |  |  |
| 4 | Use of standard engineering norms |  |  |  |
| 5 | Cost effectiveness and Societal impact |  |  |  |
| 6 | Contribution of an individual member in team |  |  |  |
| 7 | Overall Presentation & Performance |  |  |  |
| **Comments:** |  | | | |

**Project Guide & Panel Members Signature:** 1)

2)

3)

## Name, Date & Signature Name, Date & Signature

**Project Coordinator HOD - Information Technology**

# 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: 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 |  |  |  |

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

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

## Name, Date & Signature Name, Date & Signature

**External Examiner Internal Examiner**

## Name, Date & Signature HOD-Information Technology