EMERGING METHODS FOR EARLY DETECTION OF

FOREST FIRE MILESTONE AND ACTIVITY LIST

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| **Project Name** | Emerging Methods For Early  Detection Of Forest Fires | **Date** | 13/11/2022 |
| **Project**  **Domain** | Artificial Intelligence | **No of Members** | 4 |
| **Project Leader** | V.Dharani | **Project Owner/Client** | IBM |

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| **Milestone Name** | Milesto  ne No: | Description | Mandatory | Optional |
| **Project Objectives** | M-001 | Be able to learn to prepare dataset, image processing, working with CNN layers, read images using Open CV  and CNN forcomputer vision AI | Yes | - |
| **Project Flow** | M-002 | A project management process flowchart is a graphical  aid, designedto visualize the sequence of steps to be followed throughout the project management process | Yes |  |
| **Pre-Requisites** | M-003 | To complete this project we should have known following projectsuch as Keras, Tensor flow, Python , Anaconda, Open CV, Flask,  Scikit-learn etc… | Yes |  |
| **Prior Knowledge** | M-004 | One should have knowledge on the Supervised Learning  ,CNN and Regression Classification and Clustering,  ANN | Yes |  |
| **Data collection** | M-005 | We can collect dataset from different open sources like  kaggle.com, UCI machine learning etc | Yes |  |
| **Image Preproce ssig** | M-006 | Importing the Image Data Generator libraries, Define Parameters/Arguments for Image Data Generator class,  Applying Image Data Generator Functionality to trainset and test set | Yes |  |
| **Model Building** | M-007 | Importing the model building libraries, Initializing the model,Adding CNN layers, Adding Dense  layers, Configuring the learning Process, Train the | Yes |  |

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|  |  | model, Save the model, Predictions. |  |  |
| **Video Analysis** | M-008 | Open cv for video processing, creating an  account in twilio service and sending alert message | Yes |  |
| **Train CNN model** | M-009 | Register for IBM Cloud and train Image Classification Model | Yes |  |
| **Ideation Phase** | M-010 | Prepare Literature Survey on the selected Project  and InformationGathering ,empathy map and ideation | Yes |  |
| **Project Design**  **Phase-I** | M-011 | Prepare Proposed solution , problem-solution fit and SolutionArchitecture | Yes |  |
| **Project Design Phase-II** | M-012 | Prepare Customer journey , functional  requirements, Data flowdiagram and Technology Architecture | Yes |  |
| **Project Planning Phase** | M-013 | Prepare Milestone list , Activity list and Sprint Delivery Plan | Yes |  |
| **Project**  **Development Phase** | M-014 | Project Development delivery of Sprint 1, Sprint 2, Sprint 3, Sprint 4 | Yes |  |

ACTIVITY LIST

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| **ProjectName** | Emerging Methods for Early Detection of  Forest Fires | **Date** | 26/10/2022 |
| **Projec t No** | 19171-1659694051 | **No of Members** | 4 |
| **Proje ct**  **Lead** | Devi Sravanti Gubbala | **Project Owner/Cli**  **ent** | IBM |

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| **Activi ty Numb**  **er** | **Activity Name** | **Detailed Activity Description** | **Assigned To** | **Status / Comments** |
| **1.1** | Access Resources | Access the resources(courses)  inproject dashboard. | All Members | COMPLETED |
| **1.2** | Rocket chat  registrati on | Join the mentoring channel via platform& rocket-chat mobile app. | All Members | COMPLETED |
| **1.3** | Access workspace | Access the guided project  workspace. | All Members | COMPLETED |
| **1.4** | IBM  Cloud registrati on | Register on IBM Academic Initiative& Apply Feature code for IBM Cloud Credits. | All Members | IN PROGRESS |
| **1.5** | Project Repository Creation | Create GitHub account & collaboratewith Project Repository in project | All Members | COMPLETED |

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|  |  | workspace. |  |  |
| **1.6** | Environment Setup | Set-up the Laptop / Computers  based on the pre-requisites for each technology track. | All Members | COMPLETED |
| **2.1** | Literature survey | Literature survey on the selected project& Information  Gathering. | All Members | COMPLETED |
| **2.2** | Technology Training | Attend the technology  trainings as per the training Calendar. | All Members | COMPLETED |

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| **2.3** | Empathy Map | Prepare Empathy Map Canvas tocapture the user Pains &  Gains, Prepare list of  problemstatements | All Members | COMPLETED |
| **2.4** | Technology | Attend the technology trainings | All Members | COMPLETED |

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|  | Training | as per the training  Calendar. |  |  |
| **2.5** | Brainstorming | List the ideas (at least 4 per each team member) by organizing the brainstorming session and prioritize the  top 3 ideas based on the  feasibility & importance. | All Members | IN PROGRESS |
| **2.6** | Technology Training | Attend the technology trainings as perthe training  Calendar. | All Members | COMPLETED |
| **3.1** | Proposed Solution Document | Prepare the proposed solution document, which includes the novelty, feasibility of idea, business model, social impact, scalability of solution,  etc. | All Members | COMPLETED |
| **3.2** | Technology Training | Attend the technology  trainings as perthe training Calendar. | All Members | COMPLETED |
| **3.3** | Problem - Solution fit& Solution  Architecture | Prepare problem - solution fitdocument &  Solution Architecture. | All Members | COMPLETED |
| **3.4** | Technology Training | Attend the technology per the training Calendar. | All Members | COMPLETED |

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| **4.1** | Customer JourneyMap | Prepare the customer journey maps to understand the user  interactions &experiences with the application (entry to exit). | All Members | COMPLETED |
| **4.2** | Technology Training | Attend the technology trainings as perthe training  Calendar. | All Members | COMPLETED |

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| **4.3** | Functional Requirements& Data Flow Diagrams | Prepare the Functional RequirementDocument & Data- Flow Diagrams. | All Members | COMPLETED |
| **4.4** | Technolo gy Architect  ure | Prepare TechnologyArchitecture of the solution. | All Members | COMPLETED |
| **4.5** | Technology | Attend the technology trainings | All Members | COMPLETED |

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|  | Training | as per the training Calendar. |  |  |
| **5.1** | Milestone &  Activity List | Prepare Milestone & Activity List. | All Members | COMPLETED |
| **5.2** | Sprint Delivery Plan | Prepare Sprint Delivery Plan. | All  Members | COMPLETED |
| **6** | Data Collection | Collect datasets from different open sources like kaggle.com,  data.gov, UCImachine learning repository, etc. | All Members | IN PROGRESS |
| **7.1** | Image Preprocessing | Importing the Image Data Generator Library | All Members | IN PROGRESS |
| **7.2** | Image Preprocessing | Define the parameters/arguments for  Image Data Generator class. | All Members | IN PROGRESS |
| **7.3** | Image Preprocessing | Applying Image Data Generator functionality to trainset  and testset. | All Members | IN PROGRESS |
| **8.1** | Model Building | Importing the model  buildinglibraries. | All  Members | IN PROGRESS |
| **8.2** | Model Building | Initializing the model. | All  Members | COMPLETED |
| **8.3** | Model Building | Adding CNN Layers. | All  Members | COMPLETED |

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| **8.4** | Model Building | Adding Dense Layers | All  Members | COMPLETED |
| **8.5** | Model Building | Configuring the learning process | All  Members | COMPLETED |
| **8.6** | Model Building | Training the Model | All  Members | IN PROGRESS |

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| **8.7** | Model Building | Save the model | All  Members | IN PROGRESS |
| **8.8** | Model Building | Predictions | All  Members | IN PROGRESS |
| **9.1** | Video Analysis | OpenCV for video processing. | All Members | IN PROGRESS |
| **9.2** | Video Analysis | Creating an account in  Twilioservice. | All Members | IN PROGRESS |
| **9.3** | Video Analysis | Sending alert message. | All Members | IN PROGRESS |
| **10.1** | Train CNN  ModelonIBM | Register for IBM Cloud | All Members | IN PROGRESS |
| **10.2** | Train CNN ModelonIBM | Train Image Classification Model | All Members | IN PROGRESS |