**Research Project**

**(IT4010)**

**Group Assessment File**

**Project ID**  **: TMP-22-157**

**Supervisor:** Mr. Adeepa Gunarathna

**Project Title:**

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| E-Ketha : Enriching rice farmer’s quality of life through a mobile application |

**Group Details:**

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| --- | --- |
| **Student ID** | **Student Name** |
| IT19101620 | Salika Madhushanka W.J |
| IT19117256 | P.Y.D Jayasinghe |
| IT19129372 | H.H.W.M.Binuka Sihan Paranagama |
| IT19240152 | K.M.Umesh Ranthilina |

**Research Project (IT4010)**

**Student Assessment File**

**Project ID** **: TMP-22-157**

**Student ID :** IT19101620

**Student Name :** Salika Madhushanka W.J

**Research Domain:** AI and Machine learning

**Project Title**

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| E-Ketha : Enriching rice farmer’s quality of life through a mobile application |

**Project Subtitle**

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| Detection of pests and diseases using image processing and finding solutions by applying machine learning. |

**Individual Component Abstract**

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| In the field of rice farming one of the major threats come from the diseases and pests. These diseases and pests hinder the rice crops in a way that sometimes the entire paddy field gets ruined. This proposed diseases and pests identification system will have the capability of identifying the type of disease or pest affecting the crop using the mobile camera and the application’s image processing technology. Then after the implemented machine learning will do its part of discovering the proper solution to treat the affected crop. This will ensure that the problem will be taken care of early as possible so that it does not spread to other healthy crops.  Keywords :- machine learning, image processing, deep learning |

**Research Project (IT4010)**

**Student Assessment File**

**Project ID : TMP-22-157**

**Student ID :** IT19117256

**Student Name :** P.Y.D Jayasinghe

**Research Domain:** AI and Machine learning

**Project Title**

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| --- |
| E-Ketha : Enriching rice farmer’s quality of life through a mobile application |

**Project Subtitle**

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| --- |
| Detection of weeds using image processing and finding solutions by applying machine learning. |

**Individual Component Abstract**

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| In the paddy field as well as any other fields of crops, one of the most prevalent issues is that of weeds. These weeds make it so that nutrition that normally goes to rice crops are instead taken by them. To combat this the application will have the capability to process aerial images taken of the paddy fields and highlighting the areas where weeds are prevalent by the use of image processing technology. This technology is also used to then take individual picture of weed plants and identify them. Finally this identification will enable the application to give suitable solutions using machine learning in a way that rice crops are unharmed.  Keywords :- machine learning, image processing, deep learning |

**Research Project (IT4010)**

**Student Assessment File**

**Project ID : TMP-22-157**

**Student ID :** IT19129372

**Student Name :** H.H.W.M.Binuka Sihan Paranagama

**Research Domain:** AI and Machine learning

**Project Title**

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| --- |
| E-Ketha : Enriching rice farmer’s quality of life through a mobile application |

**Project Subtitle**

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| Identification of fertilization information according to the size of paddy field and the fertilizer using image processing, then after providing the instructions by applying machine learning. |

**Individual Component Abstract**

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| When it comes to paddy fields and the farmers operating in that said paddy fields the matter of fertilizers is a major topic. Recently there have been incidents where improper use of fertilizer has affected the health of farmers and consumers alike. This application uses image processing to calculate the amount of fertilizer needed for the paddy field by identifying the type of fertilizer chosen by the farmer and taking the area of the paddy field itself. Finally machine learning will be used to provide the most appropriate methods and instructions to best use the chosen fertilizers in a way that is healthy and safe for everyone.  Keywords :- machine learning, image processing, deep learning |

**Research Project (IT4010)**

**Student Assessment File**

**Project ID : TMP-22-157**

**Student ID** **:** IT19240152

**Student Name** **:** K.M.Umesh Ranthilina

**Research Domain:** AI and Machine learning

**Project Title**

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| --- |
| E-Ketha : Enriching rice farmer’s quality of life through a mobile application |

**Project Subtitle**

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| Rice crop growth identification using image processing and giving solutions to debilitated crops by applying machine learning. |

**Individual Component Abstract**

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| In the field of paddy rice farming a large portion of farmers find it difficult to understand and treat deficient rice crops. These rice crops should be identified in every phase of their lifecycle and handled with care. The proposed application will measure the crop by the use of a picture and the previously inputted rice type and the planted date using the image processing technology. Then after machine learning will compare and contrast it according to a healthy crop and provide solutions with treatments to correctly manage the crop.  Keywords :- machine learning, image processing, deep learning |