Project *Scope Statement*

Project Title	**Multi-class classifier to identify diseases**
Date	**05/21/2024**
Scope Definition	• **ML model 4 - classes Black Rot, ESCA, Leaf Blight, or Healthy.** • **Train with 9027 grape plant images** **https://www.kaggle.com/datasets/rm1000/grape-disease-dataset-original**
Project Justification	Currently, there is reliable opensource dataset for 3-disease for a research university. Use it to do a train the classifier. https://www.nature.com/articles/s41598-024-59562-x https://universe.roboflow.com/search?q=class%3Ablack+plate+on+a+brown+placemat+surrounded+by+green+leaves
Characteristics and Requirements	• **Annotate as a leaf instead of each speckle in leaf** • Assume each leave exhibits one disease • Provide probabilities of each disease
User Acceptance Criteria	• **Develop a model using keras with capability to add stages for detecting additional classes** • **API to to trigger model for inference** • **API to training data** • **Deploy it on ECS**
Project Management Deliverables	• **Model with accuracy as close as the research paper** • **Trigger on uploads to S3** • **Deploy model on ECS**
Product Deliverables	• **Code on github** • Training dataset in s3 • Inference dataset bucket in s3