

Milestones

- Discovery: Search for relevant published papers in the field of testing ML Systems
- Project Planning: Define a research goal to investigate. Iteratively narrow down scope based on relevant published papers
- Design Experiment: Define a test hypothesis. Identify distortion methodologies, models and dataset to use. Decide on a consistent training and testing set up.
- Set up experiment: Code a training and testing set up to train and test selected models
- Run experiment: Run experiment set up and compile results
- Further Investigation: Based on Results go back to designing another experiment
- Write Paper: Write conclusions based on observations from experiment results.

Timeline

Tasks	Start Date	Completion Date	Effort
Research Image Distortion Papers	September 2020	September 2020	Prudhviraj: 100%
For each paper, find a implementation	September 2020	October 2020	Prudhviraj: 100%
Research potential image classification datasets to train and test models	October 2020	October 2020	Prudhviraj: 100%
Research image classification models according to FLOPS, popularity and availability in mainstream libraries	October 2020	October 2020	Prudhviraj: 100%
Research a training method to train image classification models	October 2020	November 2020	Prudhviraj: 100%
Split image dataset into train, validation and test	November 2020	November 2020	Prudhviraj: 100%
Train models with default hyperparameters mentioned in respective papers over train and validation image datasets	November 2020	December 2020	Prudhviraj: 100%
Augment test datasets with image distortion algorithms	December 2020	December 2020	Prudhviraj: 100%

Organize accuracies in table and graphs	December 2020	January 2021	Prudhviraj: 100%
Cluster image distortions based on changes in accuracies of models	January 2021	January 2021	Prudhviraj: 100%
Analyze l2 distance between embeddings generated from undistorted test images and distorted test images	January 2021	February 2021	Prudhviraj: 100%
Document results to decide next steps	February 2021	February 2021	Prudhviraj: 100%

Milestones	Start Date	Completion Date	Effort
Discovery	August 2020	August 2020	Prudhviraj: 100%
Project Planning	August 2020	September 2020	Prudhviraj: 100%
Design Experiment	September 2020	October 2020	Prudhviraj: 100%
Set up experiment	October 2020	November 2020	Prudhviraj: 100%
Run experiment	November 2020	December 2020	Prudhviraj: 100%
Further Investigation	December 2020	February 2021	Prudhviraj: 100%
Write Paper	February 2021	March 2021	Prudhviraj: 100%