

	Success Criteria	Methodology	Responsibility
Data Sets	Process at least 15 UR and 5 Adhikari fall detection data sets	Having a variety of data sets would increase model accuracy	Justin Haryanto
Testing Sets	Create at least 10 480p videos with a duration of 10 seconds at 15 FPS compatible with the system	Testing the accuracy and processing time of the system when given videos at different frame rates	Justin Haryanto
User-Interface/Website	User able to submit an MP4 or collection of images to the UI, the UI should return the processed files as a MP4 and display to the user	Design UI with video submission box and a mechanism for outputting video and images	Justin Haryanto
Website Scaling	Website display on a variety of devices with appropriate layout adjustments	Test website on phone, tablets, and other devices	Justin Haryanto
Live Video Input	The system should accept continuous series of video clips from a webcam at a minimum of 10 fps at 480p	Use cameras to provide live video feed to the model at various fps	Justin Haryanto
Fall Detection Accuracy	>90% of falls successfully detected	Use processed videos on the system, compare results to a specified labelled dataset	Nhan Nguyen
Fall Detection CNN Accuracy	>90% of fall images and bounding boxes successfully detected	Use fall images and bounding boxes on the CNN system, compared results to a specified labelled dataset	Nhan Nguyen
Fall Detection Random Forest Accuracy	>90% of fall keypoints successfully detected	Use key points on the RF system, compared results to a specified labelled dataset	Nhan Nguyen
Fall Detection Computation Time	Make Fall/Not Fall Decision in 1-30 seconds	Run individual images through fall detection system from labelled dataset	Nhan Nguyen
Fall Detection Computation Resources	Fall detection system take up 75% or less of system GPU RAM, CPU RAM, and Memory on average	Run system on videos and images and record resource usage. Average file sizes up to 16 MB	Nhan Nguyen
Fall Detection Training Computation Time	Training Times is less than 24 hours	Record the time it take to prepare data and train machine learning models	Nhan Nguyen
Fall Detection Training Computation Resources	Training take up 75% or less of system GPU RAM, CPU RAM, and Memory on average	Record system resource usage during training.	Nhan Nguyen
Whole System Stress Test	Successfully process a stream of videos and images without system breaking down	Run system for 15 minutes with a variety of images and videos and check for any crashes or errors	Full Team
Whole System Functionality	Can the user submit files to the website and get back a display of the video and the fall detection results	Testing if the entire system works using the website UI to interface with the pose estimation and fall detection systems.	Full Team