**Wrok plan & Deadlines**

| **Week** | **Dates** | **Milestone / Task** | **Deliverable / Deadline** |
| --- | --- | --- | --- |
| **1** | 5/4 | **Project kickoff & setup**– Meet with monitor to finalize scope– Define 11 target operations– Set up Git repo, GoPro, annotation tools | Project charter & operation list (due Fri Wk1) |
| **2–3** | 19/4 | **Data acquisition (filming)**– Film 3–5 workflow videos (e.g., HDD removal, belt replacement)– Backup & catalogue raw footage | Raw footage catalog + sample clips (end of Wk3) |
| **4** | 26/4 | **Data review & preprocessing**– Watch and time-stamp all videos– Decide on annotation schema (frame-level vs. segment-level) | Annotation guidelines doc (due Fri Wk4) |
| **5–6** | 10/5 | **Annotation & segmentation (supervised pipeline)**– Annotate all videos with operation labels– Export segments & metadata | Annotated dataset (CSV + segment clips) by end Wk6 |
| **7** | 17/5 | **Supervised model prototype**– Select architecture (e.g. CNN+LSTM or TCN)– Implement data loader & baseline training script | Baseline training results & code (Fri Wk7) |
| **8** | 24/5 | **Unsupervised method exploration**– Research 2–3 algorithms (e.g. change-point detection, clustering)– Prepare inputs (optical flow, features) | Literature summary + preprocessing code (Fri Wk8) |
| **9** | 31/5 | **Model training & evaluation**– Train supervised model; compute precision/recall per operation– Run unsupervised on small subset | Evaluation report draft (end Wk9) |
| **10** | 7/6 | **Comparison & decision point**– Compare supervised vs. unsupervised performance– Choose primary approach for final phase | Decision log + updated plan (Mon Wk10) |
| **11** | 14/6 | **Refinement & fine-tuning**– Hyperparameter tuning or algorithm tweaks– Augment data or adjust segmentation thresholds | Final model + performance table (Fri Wk11) |
| **12** | 21/6 | **Integration & demo prep**– Build a simple UI/visualizer to play back segmented videos– Prepare user instructions | Demo prototype + user guide (end Wk12) |
| **13** | 28/6 | **Final report & presentation**– Write up methodology, results, discussion, future work– Rehearse 10-min demo for monitor | Submit report & deliver live demo by Fri Wk13 |