

Danelle Cline Sorted By Project

901009 - CANON

901103 - Biodiversity and Biooptics of Zooplankton

- Drafting summary of 951 hours video processed through CoTracker3 (Week 3)
- Refactored fastapi-tator. This refactor included some improvements to allow bulk deletion/modifications of video and image annotations. (Week 5)
- Update docs <https://docs.mbari.org/internal/ai/data/> and <https://docs.mbari.org/internal/ai/> (Week 5)
- Retrained M3 ViTS classification model with better focal loss. .90 top-1 balanced accuracy, 647 classes. (Week 6)
- Tator upgrade (Week 10)
- ARGO Kubernetes sandbox. (Week 10)
- Evaluating Argo as a way to orchestrate machine learning workflows and updated ai documentation. (Week 12)
- Trained ViTs model with 500+ added Ctenophora sp. A training images mined from video tracking pipeline run on 900+ hours of Haddock dives + remapping of concepts. Balanced accuracy improved from .80 to .88 !! (Week 14)
- Modified optimized tracking pipeline for strided inference in preparation for running longer time series. (Week 14)
- Continued exploration on using k8 for scaling. (Week 14)
- Processed four years Ventana/DocR dives with strided Ctenophora sp. A pipeline. Next steps are to cluster and get feedback on performance. . (Week 17)
- Continued running data mining pipeline for cteno. Expedition data query and thalassa access seem very slow and data migrations to thalassa are disruptive. Some contention on GPU machine doris doing the work with other projects that need GPU compute. (Week 19)
- Discussion about proposal (Week 19)
- Performance improvements to Vector Search System (VSS) vector database for scalability to search for vellela in archives (Week 26)
- Performance improvements to FastAPI to vector database to improve similarity search with VSS on large collections. (Week 27)
- VSS service is enabled with multi-GPUs and ready to run in bulk on plankton archives. (Week 28)
- Refactoring to merge planktivore low and high magnification configurations for VSS (vector database system for vector similarity search) into compose stack with other projects (Week 32)

- Populated low mag augmented exemplar for searching velella medusae on single mission to test. CENCOOS team to finish preparing all planktivore low-magnification data for processing soon.. (Week 32)
- Finish data mining the Planktivore 2025-2025 low-magnification dataset using a REDIS Vector Database service with a Vision Transformer (ViTs) model. Starting with only 10 examples of Velella, we found ~200 in a collection of millions. We will be using this same approach to mine for rare (long-tail) taxa in the Planktivore high-magnification dataset. (Week 35)
- (Week 35)
- Trained RF-DETR large model. 0.91 mAP@50 for target species Ctenophora sp. A (Week 48)
- Trained RF-DETR models with single-class and multi-class for comparison. 0.95 mAP@0.5 best with single-class cteno sp. A. (Week 51)

901221 - Midwater Time Series

- ViTS model training. .89 top-1 balanced accuracy (Week 3)
- Processed 200 meters with ViTS 8 block model focusing on fish; cluster results look great. (Week 3)
- Loaded 200 meter classifications using active learning examples from top-2 (Week 4)
- Working with Rob.S to label confused examples. Current model has top-1 balanced accuracy (a better metric for long-tail distributions) of 0.89. (Week 4)
- Refactored fastapi-tator (Week 5)
- Loaded ~30K clustered+classified results from ViTS16 model which had better .89 balanced accuracy than ViTS8 model of .82 for the 82 concepts(mostly species). Many common species cluster nearly perfectly. Some not in the model have been uncovered, e.g. Ptychogena lactea. Because of domain shift, these look different in i2MAP versus ROV so discovery through clustering is proving useful. (Week 5)
- (Week 5)
- (mostly) Eucheirella bitumida many poses in a single cluster (Week 5)
- Nearly complete with improved tracking algorithm changes to BioTrack code. Combining multiple assignments from Hungarian optimizations is looking very good. (Week 6)
- ViTS classification model trained with additional R.Sherlock labels. .92 top-1 balanced accuracy, 92 classes. Still some minor label clean-up to do. Rob requested retraining megadetector object detector model with removed nectosomes. (Week 6)
- Processing single i2MAP video with different models + BioTrack (Week 7)
- i2MAP ViTS8 model + Megadetect + Biotrack look pretty good. Some track jitter in siphonophores and cydippidas. Going to test with FathomNet Megladon next. (Week 8)
- Tator upgrade (Week 10)
- ARGO Kubernetes sandbox. (Week 10)
- Processed test i2MAP video with revised algorithm using Buffered IOU and reduced detection IOU to reduce track errors. (Week 12)
- Evaluating Argo workflow and updated ai documentation (Week 12)
- Speed improvements on strided processing pipeline. (Week 17)

- Processing latest spring experiment i2MAP dive with strided + sdcat clustering pipeline. Discussion with Rob Sherlock on reporting requirements (Week 17)
- Trained new i2MAP classifier ViTs models for 8, 16, and 32 block sizes (Week 19)
- Processed i2MAP_20250402 dive with 1 second 3 stage YOLO + ViT + cluster pipeline and loaded to mantis. (Week 19)
- Processing i2MAP_20250402 300 meter day/night transect with custom YOLO BioTracker strided tracking to compare to 415K YOLOx detection/tracking. Developing a workflow for fast dive summary. (Week 19)
- Discussion about proposal (Week 19)
- Finished processing i2MAP_20250402 300 meter day/night transect with custom YOLO BioTracker strided no tracking (Week 21)
- Minor exploration of tracking using botsort (Week 26)
- Proposal work (Week 27)
- Downloading i2MAP training data for Kris to Ultralytics format (Week 27)
- Proposal work (Week 28)
- Running cluster load pipeline to add more training data (Week 35)
- Prototyping new tracking pipeline (Week 35)
- Exported i2MAP training data to VOC+COCO format to share with video lab model training (Week 41)
- Retrained i2MAP ViTS classifier (Week 41)
- Trained new ViTS models with i2MAP and M3 data (Week 42)
- Using REDIS-based vector database system VSS, prepared pseudo labels for training object detector RF-DETR model. (Week 42)
- Finished training RF-DETR Large model two ways: one with full i2MAP frame size 1920x1080, and the other with 640x640 augmented image crops. Despite the pseudo labels, roughly double the performance when training on augmented crops so this is the likely target for a production pipeline. Rob S to review pseudo labels next week, then retraining with cleaned labels. (Week 46)
- *Exploring Argo with simplified kubernetes for scaled video processing (and image processing).* (Week 46)
- Processed two dives with argo kubernetes workflow & loaded tracks into the Tator. No issues other than Danelle's office getting really warm as the 4 GPUs work. Reviewed track results with Rob. Next steps are swapping out the tracker and experimenting with dropped frames to inform the i2MAP recording frame rate. (Week 48)
- Evaluating pseudo-labels. Classification performance improvement ~ 10% when ambiguous categories, e.g. marine snow and marine organisms removed. Object detection model performance needs improvement. (Week 51)

901502 - Ocean Soundscape

- Team meeting (Week 3)
- Minor work on PBP; add license and doc changes. Reading pbp-agent docs in prep to evaluate feature to merge (Week 3)

- Modified PBP quality flag notebook to demonstrate compressed .nc with added flag (Week 4)
- Team meeting (Week 4)
- Opened GitHub issue on quality flag (Week 4)
- Discussion about PBP quality flag enhancements. Issue #56 (Week 5)
- Team meeting and kick-off discussion with LRAUV and OceanSonics about integration of ICListen recorder for near real-time detection/classification+recording. Google model on Kaggle may be a good candidate for this deployment as it uses the EfficientDet model architecture, specifically, efdet0 which is lightweight and should run ok on a NVIDIA Jetson Nano. (Week 6)
- PBP job agent and Dask execution for speed-up of Soundtrap hydrophones (Week 7)
- Fixed PBP issue for Soundtrap recorders (Week 8)
- Testing a collaborators approach to scaled processing using PBP+Dask+PyHydrophone. Works! Now we can process 32 days in 4 minutes on gizo.shore.mbari.org. Thanks to Carlos and John for the teamwork, and our collaborator Clea Parcerisas for sharing. (Week 10)
- Evaluated many intern applications and met with team to discuss (Week 12)
- Migrated data mounts to new application server Thalassa (Week 12)
- PBP bug fix in soundtrap XML (Week 12)
- Worked on prepping the recording machine for hydrophone deployment next Thursday. Many thanks for all the teamwork on this, especially Andrew McCann, Bryan Touryan-Schaefer, and Adriana. Firewall issues resolved and Windows setup for ssh/rsync. Tested file transfer using Microsoft windows subsystem (wsl) from MARS to MBARI which was fast. (Week 14)
- Migrating code from Bitbucket to Github (Week 14)
- PBP maintenance (Week 14)
- Summer intern discussions (Week 14)
- Hydrophone deployed. This was a major upgrade with a new (refurbished) hydrophone, new recording computer, new node, upgraded tripod, upgraded shore side code and network storage (thalassa). The only thing left untouched was the streaming Shoutcast server. Stream is up and running on Amazon Alexa and shoutcast. Few recording resets are concerning; one due to network timeout and another Windows patches. (Week 17)
- Team meeting (Week 17)
- Debugging issues with recording drop-outs. IS and MARS staff are actively involved in the investigation as the errors are network related. (Week 19)
- Email notification is broken on cetacean. (Week 19)
- Soundcape recording is running steady now after some adjustments to the network settings to allow for longer timeouts (Week 21)
- Intern mentoring weekly meeting and modifications to topic modeling code to support Franny's project. Addressing many questions. Humpback Topic Modeling for olive humpback phrase (Week 26)
- Addressed PBP issue #78 (Week 26)
- Team meeting & proposal work (Week 27)

- Intern mentoring meeting and support for Humpback olive phrase work (Week 27)
- Proposal work (Week 28)
- Reviewed PR to add support for REASA metadata to PBP. Successful contribution from the sound community! (Week 28)
- Intern meeting (Week 28)
- Support summer intern model hyperparameter sweeps (Week 32)
- PBP support and manual AWS opendata sync for Hawaii collaborator (Week 32)
- Configured Triton inference server deployment of Google multispecies whale model for evaluation as part of a near real-time processing pipeline. Pretty straightforward. (Week 35)
- Finished modifications for resampling as needed for downstream processing MARS PR2 (Week 35)
- Submitted help ticket for clock sync support on new recording computer (Week 35)
- Deployed near realtime resampled wav files with ZMQ messaging for downstream ML pipeline (Week 37)
- Team meeting to discuss summer intern collaboration next steps (Week 37)
- Some rsync maintenance on EOL Centos7 machine. Need to replace this VM. (Week 37)
- Zoom with Franny to discuss progress on unit labeling and topic modeling (Week 41)
- Working on near realtime ML pipeline, some PBP support (Week 41)
- Supporting intern efforts on topic modeling, PBP doc updates, and migrated inference Triton server to Maximilian for testing real-time workflow. (Week 42)
- Deployed Google Humpback whale model to Triton in preparation for real-time workflow (Week 46)
- Working on real time workflow. Reviewed with John and now have an optimized flow design for hourly reporting. Expect to finish that next week. (Week 48)
- Continued work on the real-time workflow. Integrated PBP simple API for creating hybrid millidecade netCDF for visualization with algorithm outputs. (Week 51)

901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach

- Send Bryan our ML synopsis for sanctuary report (Week 3)
- Processing and cleaning Dec 2024 missions (Week 3)
- Ongoing refactoring of FastAPI-tator to simplify revisions for bulk modifications (Week 3)
- ViTS model training. .86 top-1 balanced accuracy (Week 3)
- Working on SAM based corrections of some bird localizations (Week 3)
- Team meeting (Week 4)
- Using Meta Segment Anything model (SAM) + SIFT keypoints, cleaned up bird localizations. Worked pretty well, but some manual cleaning still needed for heavy shadows (Week 4)
- Setup jupyter notebook for teams to use for training on doris as user mldevops (Week 4)
- uav.shore.mbari.org IS request for GPU for running processing pipeline (Week 4)
- Retraining ViTS model (Week 4)
- Synopsis of ML work for Sanctuary report (Week 4)

- VO flight volunteer Jan 29th Terrace Point (Week 5)
- Moving ApacheBeam pipeline from aipipeline GitHub repo to uavprocessing BitBucket repo. To simplify install, moved aidata repo to a pip module. (Week 5)
- Finished SAM (Segment Anything Model) based corrections of bird localizations (Week 6)
- ViTS classification model trained with improved bird localizations. .98 top-1 balanced accuracy, 27 classes. (Week 6)
- Working on code migration task #9 (Week 6)
- Pipeline load, detect, classify working. Need to teach the team how to use. (Week 7)
- Evaluating YV11 model (Week 7)
- YV11 looks good for general detection but mixed results on large versus small kelp (Week 8)
- VO for flights (Week 8)
- Team meeting (Week 8)
- SOCAR upcoming meeting at NASA Ames with team members on Friday. Will be interesting to hear more about what other groups are doing for image post processing. I cannot attend, but T. O'reilly will give an update. (Week 8)
- Tator upgrade (Week 10)
- ARGO Kubernetes sandbox. (Week 10)
- Setup justfile recipes and some minor rework of processing scripts to help avoid an error in the post-flight processing. Thanks to Bill Kirkwood for the help. (Week 10)
- Evaluating Argo as a way to orchestrate machine learning workflows (Week 12)
- Updated UAV documentation (Week 12)
- Assisted VO two days drone flights (Week 12)
- Helping team fully automate processing pipeline from raw + level1/2+ ai (Week 12)
- Team discussion on level processing and strategies for full automation that support multiple platforms (Week 14)
- Attended Modovolo webinar (Week 14)
- Simple POC RestAPI for processing from a UI deployed to VM uav.shore.mbari.org (Week 14)
- Summer intern discussions (Week 14)
- Searching for velella velella in recent missing where they were washed up on shore revealed potential groups at sea. Resolution is difficult to confirm. (Week 14)
- Continued work on ai documentation at <https://docs.mbari.org/internal/ai> (Week 14)
- Assisted as VO for deployment and ongoing improvements to processing code with the team. Need to move the master branch to main. (Week 17)
- Summer intern correspondence (Week 17)
- Update to processing pipeline to support either per mission or mission discovery level processing. (Week 19)
- Processed mission trinity-2_20250422T171024_NewBrighton (Week 19)
- Team meeting with collaborators interested in otter/shark avoidance. (Week 19)
- Assisting as VO for flights (Week 21)

- Briefly tried the tool <https://www.animaldetect.com/> . Worked at 0% confidence threshold on uncluttered drone images to detect larger megafauna. Limited to 1G for free version Worth trying further on images with high reflectance. (Week 21)
- Met with collaborator to discuss shark/kelp data (Week 21)
- IS request for new VM drone to host data externally for broader access (Week 21)
- Annotation system moved to <https://drone.mbari.org> debugging issues with SSL failure through python API. Shark localizations verified by external collaborators. (Week 26)
- Intern meeting with Tim. Addressing many questions. Kelp coverage using Meta Segment Anything Model (SAM). (Week 26)
- Intern mentoring and arranging upcoming meeting with collaborators to discuss shark/otter/kelp research (Week 27)
- Proposal work (Week 28)
- Met with CSUMB collaborators to discuss progress on kelp coverage with SAM model, otter/shark detection. They contributed some difficult localizations of otters and validated sharks. (Week 28)
- Intern meeting (Week 28)
- Intern meeting (Week 32)
- Team meeting to discuss 2026 phase 2 proposal feedback. (Week 35)
- Minor maintenance to remove some duplicate loads (Week 37)
- Some refactoring of the ML pipeline to move Tator image loads earlier with Axiom image sync as needed for better downstream processing (Week 37)
- Backlog processing. (Week 37)
- Generated random testset from drone.mbari.org (Week 41)
- Trained ViTS classifier model with added classes for Seacliff site and improved Egregia localizations (Week 41)
- Working on exploring Cursor+React web app with uavscope (Week 41)
- Zoom with Tim on KelpCoverage (Week 41)
- missionview webapp updates (Week 42)
- Meeting with former intern Tim to discuss updates on Kelp model. (Week 42)
- Created test dataset and loaded into version testdata on drone.mbari.org. (Week 42)
- Trained new ViTS classifier (Week 46)
- Working on missionview web application (Week 46)
- Argo workflow created for running RF-DETR object detection model via k3s cluster. Next step is to deploy through the Tator admin console. This will allow any member of the team to process the images post-deployment without a need for programming. (Week 51)

902111 - Carbon Flux Ecology

- Assisting Fernanda with model training and running inference (Week 3)
- Loaded 5.4 hour ISIIS video (Week 3)
- Setup jupyter server for model training on doris.shore.mbari.org using two IS maintained GPUs. (Week 3)

- Setup jupyter notebook for teams to use for training on doris as user mldevops (Week 4)
- Refactoring fastapi-tator (Week 5)
- Scheduled ISIIS review meeting with team (Week 5)
- Downloaded training data set for Fernanda with missing bubbles category (Week 6)
- Team plans to compare two models Resnet 18 and ViTs on a single ISIIS full mission. (Week 6)
- Changed Docker build in aidata repo to use pip install mbari-aidata (Week 6)
- Fecal pellet subclass and discussion with Fernanda about ROI preprocessing and model comparisons (Week 7)
- Added support to export ROIs to speed-up ISIIS processing pipeline (Week 8)
- Discussion with team on CFE preprocessing and model results on a deployment. Three models Resnet18, DINO ViTs8 and ViTS16. Looks like we need a few more classes, e.g. diffuse blur. and to remove more “junk”. The blob detector may be too sensitive. Fernanda to explore changes to blob detector and some basic background subtraction. (Week 10)
- Tator upgrade (Week 10)
- ARGO Kubernetes sandbox. (Week 10)
- SDCAT cluster mods to merge clusters on Planktivore low/high mag camera (Week 10)
- Evaluating Argo as a way to orchestrate machine learning workflows (Week 12)
- Performance improvement with faster label query by project to mantis so the team can get fast feedback on labeling. Redeployed through an ansible playbook. (Week 12)
- Training IFCB model for Planktivore clustering/prediction. (Week 12)
- Loaded low and high magnification planktivore cluster data into annotation server mantis. (Week 14)
- Generated new training data for Fernanda (Week 14)
- Continued work on ai documentation at <https://docs.mbari.org/internal/ai> (Week 14)
- Added support for reading YAML configuration from URL (Week 14)
- Working on performance improvements to sdcat for CFE processing (Week 17)
- Counsel t (Week 17)
- Meeting with CenCOOS/planktivore team. (Week 19)
- Trello board input on clustering tasks (Week 19)
- Tried to process Hawaii ISIIS video with Biodiversity pipeline with no luck. Need a blob or segment model detector. (Week 19)
- Laura C. has proceeded with training low-mag model per classifier training instructions. So far so good. Expect to do another round of clustering with this model. (Week 19)
- Finished performance and feature upgrades to sdcat to support processing larger collections with better reporting and export to parquet format. Release v1.21.0 (Week 21)
- Processing Hawaii ISIIS data 3 million ROIs on doris VM (Week 21)
- Team meetings with Planktivore/CenCOOS groups to discuss workflow and next steps (Week 21)
- Finalizing processing pipeline for clustering ~3 million ROIs from ISIIS video taken during Hawaii expedition. This pipeline uses both a fine-tuned plankton model and a

foundational model. Many thanks to Fernanda for her help generating ROIs and brainstorming ideas for the pipeline. (Week 26)

- Planktivore team labeling second iteration of clustered labels. (Week 26)
- Loaded ~128K clustered ROIs for Hawaii ISIIS mission (Week 27)
- Trying to nail down a challenging bug in cluster merge code. (Week 27)
- Hawaii ISIIS expedition clusters being labeled now by the team. Should have data soon to train a model. This is the first pipeline for CFE using video in mantis. (Week 28)
- Redeployed Tator on mantis with new SSL certificates (Week 28)
- Planktivore meeting. Team to work towards a working pipeline by end of September. (Week 32)
- Fixed zero-based issue in image crop. The lab is evaluating the performance of the latest model. Supporting new user questions and account setup. (Week 35)
- Reviewed Ocean Science Meeting conference abstract (Week 35)
- Reviewed L.Chrobak Stratify PR. Thanks to Laura for the contribution! (Week 35)
- Testing elemental_id loading feature #26 (Week 37)
- Planktivore High Mag. Starting batch process using VSS (Vector Search System - a system designed that uses a vector database, embeddings from ViTs models, and a FastAPI to mine for rare examples in planktivore high mag data. (Week 37)
- Supporting team validation of ISIIS model. Increasing CPU/memory on mantis.shore as needed for more users (Week 41)
- Working on data mining aggregates for planktivore low-mag training data (Week 41)
- Working on data mining for good examples in low-mag planktivore (Week 42)
- Meeting with Voxel51 to discuss enterprise deployment and general capabilities. This tool has nice features such as similarity search and clever ways to interact with the data to speed-up and improve our labeling, QA/QC, etc. Could work with our existing REDIS vector database. (Week 46)
- Many discussions with vendors about enterprise tools for planktivore collaboration and general ML devops with Laura Chrobak (Week 48)
- Quick testing of Voxel51 to better understand the API (Week 48)
- Evaluating Voxel51 enterprise and community versions. So far, data visualization on training data sets is fast; corrections through the embedding lasso based query with our trained models is very intuitive. Model evaluation and integration with our vector database are on the radar. A big thanks to all who have helped, including Andrew McCann, Laura Chrobak, Kevin Gomes, and Henry Ruhl!! Next steps are to evaluate its use on large collections of 200K and 1million localizations. (Week 51)

902306 - SINKER

- First meeting scheduled for Tuesday next week. (Week 3)
- Discussion with Karen S. about project goals and brainstorming about tools and architecture. Team meeting next week will provide needed requirements (Week 4)
- Kick-off meeting (Week 5)
- Team kick-off meeting (Week 6)
- Discussion with Karen and Carlos Rueda about preliminary prototype ideas (Week 6)

- Backend prototyping to understand better how to create and populate the SVG. Many thanks to Steve Haddock for sharing his code (Week 7)
- Productive meeting to discuss dashboard with the team. Delivery of initial prototype due in July. (Week 19)
- Submitted IS request for VM to host dashboard and backend prototype. Discussion with Peter in IS about VM user configuration. (Week 19)
- Researching ideas for backend design. (Week 26)
- Working on backend design and development - mostly infrastructure (Week 27)
- Development of sinker backend video stream and nginx image host. (Week 28)
- Integrated ADCP data incoming from MARS to dashboard as SSE (Week 32)
- Setup rsync from MARS to shore, deployed via Ansible (Week 32)
- Investigating issue with low-frame rate refresh HLS stream on sediment cameras (Week 32)
- Adding REDIS time series support to ADCP data query (Week 35)
- Development server is up and running sinkerdev.shore.mbari.org (Week 35)
- Fixed image brightness issue #10 (Week 37)
- Trying to track down a strange issue with REDIS time series query not returning full data for multiple days as expected. Thanks to Karen S. for identifying this. (Week 37)
- Addressed schema prune issue although not resolved until today, thanks to K.Salamy help. (Week 41)
- Updated ansible deployment with README.txt and generated build.sh script to support build on target. (Week 42)
- Issues with rsync failing due to the sinker thalassa NFS mount becoming unresponsive - this is the same problem we have seen with PAM_Analysis on gizo.shore and multiple shares on mantis.shore. (Week 42)
- Cleaned up the production deployment code #1 (Week 48)

Out of Office

- Dec 22 - Jan 2: Vacation
- Vacation 2/21, 2/28-3/7
- Vacation Tuesday, 3/25
- Vacation 5/26-5/30
- November 26th vacation

Overhead

- Perf feedback training review (Week 3)
- Group tech talk on authentication and authorization (Week 3)
- Preparing self-assessment (Week 4)
- AWS 2025 touch base and SA intro meeting (Week 4)
- Conflict of interest form completed (Week 4)
- Finished self-assessment for performance review (Week 5)
- Scheduled meeting on plankton labeling. Plan to demo tools I have developed for a number of projects to rapidly annotate images/videos for machine learning. (Week 6)

- Group meeting (Week 6)
- Issues with (Week 6)
- Planktivore cluster exploration (Week 7)
- Group meeting to discuss workflow tools (Week 7)
- Evaluated many intern applications for automated classification of deep-sea imagery internship and met with Duane to discuss (Week 12)
- IAM account updates (Week 12)
- Minor experimentation with Cursor building simple web app. Cool tool, but I find the whole zen programming idea not very zen. (Week 12)
- Sick day (Week 14)
- Tech talk on Argo (Week 14)
- Vacation 4/28-5/2 (Week 17)
- Group meeting on authentication (Week 21)
- Updated AI docs <https://docs.mbari.org/internal/ai/> (Week 26)
- ML workshop preparation and presentation (Week 32)
- Proposal review (Week 32)
- Reviewing KITOPS packaging for ML/AI ops (Week 35)
- Project management training (Week 37)
- SINKER project scicom interview (Week 41)
- Seminar (Week 41)
- Organizing GitHub issues with CoreAI. (Week 42)
- General maintenance on ansible deployments to ensure cron jobs are deleted from the remote. (Week 42)
- Out sick 10-15 (Week 42)