

Danelle Cline Sorted By Project

300057 - Mooring Maintenance

500055 - VARS, M3/RS, DSG

- The AWS video processing workflow is ready for integration potentially in Q2, pending video lab efforts to understand how to best work with the ML output. This scalable processing workflow has been optimized for cost and can process approximately 70-90 hours of video per day for \$1.50 per recorded video hour. Results are stored in the M3_TRACKS database. A web dashboard provides an overview. (Week 3)
- Python package deepsea-ai documentation updates and a minor bug fix to support verifying previously processed videos. Recomputing missing videos from a last large batch job. (Week 11)

500055 - VARS, M3/RS, DSG.

- Revised database track view for faster query times with help from Neil's query analyzer tool; next steps are to test this on the dev(postgres) then prod(sqlserver) databases (Week 16)
- Weekly meeting (Week 23)
- Exploring track cluster similarity to accelerate ML proposal corrections (Week 23)
- Working on a rapid prototype of a video ML endpoint (Week 29)
- Working on cluster similarity sort in vars-gridview to accelerate ML proposal corrections (Week 29)
- Working on a rapid prototype of a video ML endpoint (Week 30)
- Working on cluster similarity sort in vars-gridview to accelerate ML proposal corrections (Week 30)
- Working on a rapid prototype of a video ML endpoint; hoping to finish by early next week (Week 32)
- Working on cluster similarity sort in vars-gridview to accelerate ML proposal corrections (Week 32)
- FastAPI for running video tracking processors (similar to cloud workflow) deployed to machine <http://maximilian.shore.mbari.org:8000/docs> (Week 42)
- Dockerizing tools for large-scale batch processing to deploy to doris.shore.mbari.org (Week 42)
- Dockerizing tools for large-scale batch processing are up and running on doris.shore.mbari.org. Processed three 2023 dives, which auto-loaded into our M3_EVENT_TRACKS database. These can be viewed on the deepsea-ai dashboard. (Week 45)
- The team discussed workflow changes, including report generation next steps, and year-end goals. (Week 45)
- NTR (Week 50)

901009 - CANON

901103 - Biodiversity and Biooptics of Zooplankton

- Added login to deepsea-ai dashboard and an approval flag to support some bulk editing of track training data through boxjelly (Week 3)
- SecretsManager testing (Week 3)
- vars-labelbot in progress; an experimental robot to add localized midwater annotations (Week 11)
- Training data loader tests (Week 11)
- Refinement to midwater clustering and setup database and workflow for active learning. Seeing some very interpretable clusters. (Week 16)
- Prepared verified and unverified data sets for summer intern (Week 23)

- Export data to CIFAR format for Duane Vision Transformer training (Week 23)
- Finalized baseline i2MAP data: 80K localizations and 70 classes in CIFAR, COCO, VOC, and YOLO formats for various experiments (Week 29)
- Discussion with the team on the next steps (Week 30)
- Tested loading label taxonomy into our database (Week 30)
- Deployed database to VM mantis and moved image data to nginx server (Week 32)
- Outlined workflow to backannotate Ctenophora sp. A (Week 42)
- Loaded training data for visualizing and clearing into mantis. This included Ctenophora sp. A examples augmented with albumentations and other examples that may be confused to create an effective model. Removed blurry and small examples. Haddock to verify before training. (Week 45)
- Waiting for Haddock to verify before retraining. (Week 50)

901206 - Coastal Profiling Float

- Flowflow repo created for development. Discussion with the team on requirements. (Week 45)
- Waiting for hardware to test. Implemented RUDICS simulation mode. (Week 50)

901502 - Passive Acoustic Sensing

- AWS 2023 streaming server windows updates (Week 3)
- Wrote a colab notebook to demonstrate how to build and run the Earth Species AVES model for collaborator, Kano Aiu (Week 3)
- Investigating multiple spectrogram representations for Blue Whale classification models (Week 3)
- Team meeting (Week 11)
- Working on demos for NOAA on using AWS Batch for pypam (open source acoustic package) processing. So far so good; test millidecade CDK fast working and next steps are daily processing CDK stack. Expect to have full cost accounting to report to NOAA sound archive head. (Week 11)
- Generating wav metadata for entire 7 year archive in preparation for running the pypam netCDF generation (Week 16)
- Livestream server was hung on Windows updates (Week 16)
- Student discussion and some inquiry on pypam/oceansoundscape pip modules (Week 16)
- Preparing for running select days in AWS of pypam netCDF generation (Week 23)
- Fixed disabled cron check on recording computer that was not emailing during recording outages; Symantec flagging recording traffic as possible threat. (Week 23)
- Continued support to run tests alongside on-premise tests using AWS CDK stack with AWS Batch with Fargate provisioning. So far, so good. The team is nearing finalizing the workflow, which supports running up to 256 days at a time in AWS. (Week 29)
- Processed millidecade netCDFs for 2021, 2022, 2023 in AWS. John Ryan confirms the results match the groundtruth exactly. Cost is 6.5 cents per day for the cloud workflow. Wow! Processing will be migrated to an automated flow in mid-August. (Week 30)
- Final millidecade netCDFs jobs for 2017-2023 in AWS. Further reduction in cost to 5 cents per day by running larger batch jobs. Wow! (Week 32)
- Blue whale D check-in with Kanoe (Week 32)
- Processed millidecade netCDFs for 2022 soundtrap recorders in AWS Batch service. (Week 42)
- Assisting with slides and Dask parallelization to process multiple days for upcoming NOAA SoundCoop Workshop, Boulder, CO October 24-25 2023 (Week 42)
- Team meeting. Pending work to add JSON metadata generation code to pypam to simplify example use. (Week 45)
- Added JSON metadata generation code to pypam-based-processing to simplify example use. We need to do further integration. Talks are planned in January with the broader community on handling data in GCP. (Week 50)

901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach

- Ran a few different models in the HuggingFace repository on aerial images using sliced predictions with the sahi library that Duane Edgington suggested (thanks Duane!). The intention was to see if these would work to flag class agnostic detections for later review. Some of the detections e.g. bird, boat were accurate, but others were not; this may work fine to flagging visually interesting objects for review which is the requirement. (Week 3)
- Workflow with sliced predictions and image clustering is revealing some interesting clusters. More on that next week. (Week 11)
- Setup database and web app to start editing the detections; expect to have data loaded by next week for the team to start revising. (Week 16)
- Developed anti-reflectance removal and improved object detection algorithm. Tested this on a recent mission deployment where we deployed a disc test to simulate a jelly target (Bill, Brian, deployed a Secchi disk in 0.5 meters water). Looks like we can detect the target with this method. This is very challenging as the target is very small. Boat was removed with the Lama cleaner (thanks to Duane E. for the tip). (Week 16)
- (Week 16)
- Weekly meeting (Week 23)
- Sanity check: generated heat map display of distribution of detections in annotated drone missions so far. (Week 23)
- (Week 23)
- Weekly meetings and project proposal (Week 29)
- Loading the last 4 missions; need to schedule label training and work on label taxonomy (Week 29)
- Weekly meeting (Week 30)
- Tested loading label taxonomy into our database (Week 30)
- Need to schedule label training and work on label taxonomy (Week 30)
- Database being moved from a physical machine to the VM manta.shore.mbari.org (Week 30)
- Deployed database to VM mantis and moved image data to nginx server (Week 32)
- Need to do a doodle poll to schedule discussion on labeling with the team (Week 32)
- Meeting and request for more time (Week 42)
- Finished hierarchical saliency detection algorithm (Week 42)
- Brought processing up to date in preparation for hand-off to D.Edgington and team for labeling and model training (Week 45)
- The team is labeling after a few training sessions. Processing data as needed. We have been searching for jellies and have found our first cluster! (Week 50)

902204 - Scalable Robotics

- Attended Sebastian Thesis (Week 16)
- Proposal and project discussions with Eric. Hoping to join the next sprint to ramp up on cloud tasks in a few weeks. (Week 29)
- Hoping to join the next sprint in mid-August (Week 30)
- Discussions with Giancarlo and Eric about scoping tasks for next sprint starting August 17th. (Week 32)
- Finished docker build and preliminary tests of HelloWorld and quad rotor simulations in RoboMaker. Focused team to discuss next Monday. (Week 42)
- Testing Python entry point to quadrotor simulations. (Week 45)
- 2024 year wrap-up, discussion with a few interested members on cloud tests. (Week 50)
- Working on workflow for stereo data ingest and visualization. (Week 50)

Out of Office

- Few sick days
- Tentative out of office vacation Jan 25, 26, 27
- out-of-office vacation April 3-7th

- Generative AI Immersion Days, June 13-15, San Francisco
- July 31-Aug 4th
- SoundCoop Workshop, Boulder, CO October 24-25 2023
- Vacation October 30th - November 3rd
- Thanksgiving, November 22nd-November 24th.
- December 14th, bereavement leave
- December 25-Jan 2nd, vacation

Overhead

- 2023 planning and performance review materials and feedback (Week 3)
- Summer interns discussions (Week 11)
- Summer intern overhead (Week 17)
- Summer intern overhead (Week 18)
- Summer intern overhead (Week 19)
- Summer intern Tarun Sharma started this week (Week 23)
- Summer intern mentoring (Week 29)
- Discussions on 2024 projects (Week 29)
- Summer intern mentoring (Week 30)
- Danelle is preparing a Zoom presentation on technology for 125 6-8th grade students attending a STEM summer camp on the east coast. This group will be doing an ROV dive and using drones to explore local birds, fishes, and invertebrates in Five Islands Park, New Rochell NY (Week 30)
- Summer intern mentoring (Week 32)
- Stanford and Cal Poly student mentoring (Week 42)
- Stanford and Cal Poly student mentoring (Week 45)
- Attended CENCOOS meeting to discuss 3-5 year plans (Week 45)
- Cal Poly students finished a project on zero-shot clustering of Antedonidae. Thanks to Lonny Lundsten for inspiration to focus on Antedonidae. (Week 50)
- Quick test to create a few model cards in HuggingFace to facilitate workflow integration with several imaging projects, including UAV, Scalable Robotics, and more in 2024. Many thanks to Duane for setting up the MBARI space. (Week 50)
- Listening to Google Woman in Machine Learning Symposium talks (Week 50)

SoundCoop Workshop, Boulder, CO October 24-25 2023