

Engineering Weekly Report 3/9/2023 - 3/16/2023

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - 500055 - VARS, M3/RS, DSG
 - Validated class list for 315k model
 - 902204 - Scalable Robotics
 - Ran analysis on camera intrinsic calibration to validate GIM reports on Mola 4K cam
 - Dockerized RTAB-Map ROS wrapper, tested
 - Out of Office
 - 2/27-3/10 CSIRO visit
- Francois Cazenave
 - 901405 - PowerBuoy Development
 - Assembling buoy
 - 902106 - Niobicon-Based AUV Docking Development
 - Building mooring
 - Out of Office
 - Sick time due to COVID
- Danelle Cline
 - 500055 - VARS, M3/RS, DSG
 - 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.
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - vars-labelbot in progress; an experimental robot to add localized midwater annotations
 - Training data loader tests
 - 901502 - Passive Acoustic Sensing
 - Team meeting
 - 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.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Workflow with sliced predictions and image clustering is revealing some interesting clusters. More on that next week.
 - Overhead
 - Summer interns discussions
 - Out of Office
 - out-of-office vacation April 3-7th
- Duane Edgington
 - 500055 - VARS, M3/RS, DSG

- Explored why some videos from dive D1377 did not load in Lonny's giant January AWS ECS submission. By carefully examining the AWS cloudwatch logs I determined that the missing videos were not successfully uploaded to AWS S3. We don't know if that was due to a titan issue, or networking issue, or other. Issue posted to github to improve feedback/logging of video submissions and processing status in deepsea-ai portal.
 - Ran a job with Danelle to resubmit dive D1377 and monitor successful completion and loading of missing video data into deepsea-ai. So far so good. It should be completed by the end of March 15.
- 901103 - Biodiversity and Biooptics of Zooplankton
 - Continued exploration of tools to facilitate active learning for creation of midwater image training library.
- 901502 - Passive Acoustic Sensing
 - Team meeting. To participate in AWS cost analysis with Carlos and Danelle on recent PyPam runs for presentation Friday.
- 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Continued exploration of tools for detection.
- 902004 - Planktivore
 - Team meeting
- Overhead
 - Enabled Lonny to be able to run AWS Cost Explorer for him to monitor costs for video lab work.
 - Campaign to slash EFS daily charges (related to SageMaker Studio EFS volume) was successful. Backed up work to sync'd S3 bucket, including glacier store.
- Out of Office
 - Power outage March 10 - 11.
 - Vacation: March 21 - 31. Back in office April 3.
- Jon Erickson
- Kevin Gomes
 - 200105 - Core Navigation Data - MDUC
 - Light prototyping for use of single LCM type.
 - 300079 - DMO Divisional Support - Rachel Carson
 - Somehow the Leica GPS on the Carson is happy again (with respect to Navproc) and verified data streams we have to date with Dataprobe.
 - 901009 - CANON
 - More overhaul of the docker compose used in ODSS so I can align all four ODSS deployments and standardize on Ubuntu and Docker.
 - Overhead
 - Met with Henry, Fred and Mike about ODSS use for Syncro project
 - Out of Office
 - Mar 30, 31: Vacation
 - Aug 28-Sep 12: Vacation
- Andy Hamilton
- Kent Headley
 - Out of Office
 - medical (3/10 a.m.)
- Rich Henthorn
 - 300078 - DMO Divisional Support - AUV
 - Shared-memory IPC mechanisms
 - 901405 - PowerBuoy Development
 - Implementing sim_pblog for buoy sim project
 - Populating AHRS and Trefoil sections

- 901618 - Pelagic-Benthic Coupling
 - Weekly Meeting
- Overhead
 - MBARI Declared Emergency
- Out of Office
 - Apr 4 - 6: Vacation, WFH, PDT
 - May 3 : SES deployment near MARS node
 - June 28: SES recovery near MARS node
 - June 29 - July 10: Vacation
 - July 24 - 27: Vacation
- Brett Hobson
- Scott Jensen
- Brent Jones
 - 902004 - Planktivore
 - Building second planktivore controller. Integrating software from Eyeris LRAUV
 - Out of Office
 - 2 days storm
- Chad Keczy
- Brian Kieft
 - 300083 - DMO Divisional Support - LRAUV
 - Daphne launch today for MBTS run and some engineering testing
 - Prepping Pontus for deployment today (hopefully)
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Testing MMP mode for Benthos modems
 - Fixed minor issue in Triton backseat mission
 - Overhead
 - Debugging some issues with WHOI DVLs on new vehicle Pyxis
 - Out of Office
 - 3/29 - 3/31
- Denis Klimov
- Eric Martin
- Thom Maughan
 - Out of Office
 - Take son to school day (3/8, 4/5), work at home am, on campus 1-4
 - week vacation possibly in March.
 - Vacation June 28 - July 12
- Mike McCann
 - 200105 - Core Navigation Data - MDUC
 - Fixed load_edited_into_expd.py so that it reuses existing CleanRovNavLoad records in expd
 - Watching that nightly emdb and expd database update cron jobs are successful & idempotent
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Reviewing flash intensity calculation in Notebook
 - Continuing to compare auv-python calculations with the Monique's calculations
 - Overhead
 - Met with capstone students who are working on mbgrd2gltf for MB-System
 - Out of Office
 - March 13 Vacation day
- Rob McEwen
- Paul McGill
 - 901618 - Pelagic-Benthic Coupling

- Analyzing Benthic Rover fluorescence images
 - Collected info on SES for meeting with McLane about possible tech transfer
- 902304 - Piscivore Cam
 - Making good progress on Arduino code for camera controller
- Overhead
 - Reviewed job posting for MiniROV hire
 - Training: attended online seminar by Keysight on signal integrity for PCBs
- Out of Office
 - Medical appt on Wed morning
- Tom O'Reilly
- Mike Risi
 - Out of Office
 - Out of office on Fridays
- Paul Roberts
 - 901809 - Deep Sea Bioinspiration
 - EyeRIS (Moore Foundation) project wrapup
 - MiniROV Midwater sled updates
 - DSPL machine vision camera testing
 - DeepSTARia software integration with latest CVisionAI model
 - 901904.99 - Corral Camera System
 - Planning for initial testing of multispectral camera las system
 - 902204 - Scalable Robotics
 - CoMPAS MiniROV integration
 - Mola flat port stereo pressure testing
 - Open HSI dataset support
 - Out of Office
 - Working remote due to road closure 3/13, 3/14, 3/15
- Brent Roman
 - Out of Office
 - March 8-15 visiting my dad in Sarasota, FL
- Carlos Rueda
- Karen Salamy
 - Out of Office
 - Now in the office 3 days/week M, T, Th..
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - There's a new share at titan:/M3_ML for archiving machine learning models used for analysis by the video lab.
 - Created a new service, <https://github.com/mbari-org/pythia>, for applying yolov5 inference to images. This service is a replacement for <https://github.com/mbari-org/keras-model-server-fast-api>
 - Overhead
 - Met with Sara Beery and gave a tour of MBARI's video lab, annotation and image ML tools.
 - Met with Kakani and Bill Kirkwood to discuss hosting a Marine Imaging Workshop in 2024
 - Out of Office
 - May 8 - 16 - Out of office
 - Jul 28 - Aug 6 - Vacation
- Alana Sherman

- 901618 - Pelagic-Benthic Coupling
 - First pass at cleaning out Rover lab
- 902208 - MiniROV Support
 - Working on top side block diagrams of video and computer system connections
 - Had some success troubleshooting issues with video issues but still can't get overlay working.
- Overhead
 - Worked on rewrite of Mini Pilot/engineer position
- George Stern