

Kevin Barnard

Week 52

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902204 - Scalable Marine Robotics Foundations
- Overhead
- Out of Office
 - Vacation 12/27-12/29

Week 51

- 200103 - Core CTD Data - MDUC
 - Resolved D1449 bad O2 values; loaded O2 = NULL and secondary O2 as-is
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
 - Submitted paper to Nature Communications
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902204 - Scalable Marine Robotics Foundations
 - Prep for cruise (canceled)
 - Ran online SLAM with OI sled in test tank
- Overhead
- Out of Office

Week 50

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
 - Started updating Cthulhu to use new UDP-only video player remote control spec
- 701139 - ML Tracking
 - Preparing submission to Nature Communications
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902204 - Scalable Marine Robotics Foundations
 - Prep work for SLAM demo cruises

- Overhead
- Out of Office
 - RC cruises 12/5 and 12/6
 - RC cruises 12/19 and 12/20

Week 49

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
 - Worked on implementation of Sharktopoda 2 Python client controller
- 701139 - ML Tracking
 - Preparing submission to Nature Communications
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Conducted OVAI program manager and engagement coordinator interviews
- 902005 - VARS Annotation Assistance
 - Working on automating Deep Sea AI track → VARS annotation load process
- 902204 - Scalable Marine Robotics Foundations
 - Performed in-air intrinsic and extrinsic calibration of Mola AUV cameras
- Overhead
- Out of Office
 - RC cruises 12/5 and 12/6

Week 48

- 200103 - Core CTD Data - MDUC
 - Writing up transition docs
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
 - Working on Sharktopoda 2 Python client controller
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Added explicit embargoed concept check to Twitter bot
 - Handling submission from Alexa Runyan
 - OVAI program manager interviews
- 902005 - VARS Annotation Assistance
- 902204 - Scalable Marine Robotics Foundations
 - Evaluated & validated GIM RTAB-Map code modifications
 - Tested RTAB-Map performance with different feature detectors
 - Attempting to calibrate Mola AUV stereo cameras and 4K camera
- Overhead
- Out of Office

Week 47

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking

- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902204 - Scalable Marine Robotics Foundations
- Overhead
- Out of Office
 - Thanksgiving week; Nov 21-25

Week 46

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
 - Working on Python client for Sharktopoda 2 video player spec
 - Integrated VARS GridView with Beholder (for non-framegrabbed localizations) and Raziel (configuration server); published on PyPI as `vars-gridview`
- 701139 - ML Tracking
 - Looking for cs.RO arXiv endorsement
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Discussed 2023 tasks
- 902005 - VARS Annotation Assistance
 - Started investigating automation of Deepsea AI DB tracks → VARS annotation load process
- 902204 - Scalable Marine Robotics Foundations
 - Diving into RTAB-Map SLAM with filtered IMU + DVL measurement for visual-inertial odometry
 - Investigating additional factors (e.g. absolute depth factor) in GTSAM backend graph optimization
 - Tried running stereo calibration on Mola test tank images
- Overhead
- Out of Office
 - Thanksgiving week; Nov 21-25

Week 45

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902204 - Scalable Marine Robotics Foundations
- Overhead
- Out of Office

Week 44

- 200103 - Core CTD Data - MDUC
 - Kept probing into CTD processing issue; negative values generated for O2 cause script to crash
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG

- Set up CVision AI model server, serving new (benthic + midwater) model trained on MBARI data at <http://prometheus.shore.mbari.org:8082>
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Modified Twitter bot to use new model/model server
- 902005 - VARS Annotation Assistance
- 902204 - Scalable Marine Robotics Foundations
 - Working on stereo camera calibration for Mola AUV
- Overhead
- Out of Office

Week 43

- 200103 - Core CTD Data - MDUC
 - Investigating issues with CTD load/processing (only affecting a couple dives)
 - Caught up on O2 QC
 - Preparing transition to Karen Salamy
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
 - Submitted manuscript to Science Robotics for special issue on "autonomous robots for exploration & beyond"
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Implemented sort by central region average hue and depth in vars-gridview
- 902005 - VARS Annotation Assistance
 - Wrote API spec for CVision AI FastAPI object detection model server
 - Wrote StrongSort to custom visual event conversion script
 - Looking into setting up model server proxy service
- 902204 - Scalable Marine Robotics Foundations
- Overhead
- Out of Office
 - Vacation 10/31-11/1

Week 42

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- 902204 - Scalable Marine Robotics Foundations
- Overhead
- Out of Office
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)

- Vacation Oct 8 - 23

Week 41

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- 902204 - Scalable Marine Robotics Foundations
- Overhead
- Out of Office
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)
 - Vacation Oct 8 - 23

Week 40

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- 902204 - Scalable Marine Robotics Foundations
- Overhead
- Out of Office
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)
 - Vacation Oct 8 - 23

Week 39

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- 902204 - Scalable Marine Robotics Foundations
- Overhead
- Out of Office
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)
 - Vacation Oct 8 - 23

Week 38

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- 902204 - Scalable Marine Robotics Foundations
- Overhead
- Out of Office
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)
 - Vacation Oct 8 - 23

Week 37

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
 - Data analysis for Science Robotics submission
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Re-generated midwater dataset for CVision AI model
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- 902204 - Scalable Marine Robotics Foundations
 - Evaluated RTAB-Map for stereo-based SLAM
 - Continued support for GIM Robotics introduction to Kimera
- Overhead
- Out of Office
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)
 - Vacation Oct 8 - 23

Week 36

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- 902204 - Scalable Marine Robotics Foundations
- Overhead
- Out of Office
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)

- Vacation Oct 8 - 23

Week 35

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- 902204 - Scalable Marine Robotics Foundations
- Overhead
- Out of Office
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)
 - Vacation Oct 8 - 23

Week 34

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
 - Provided i2MAP transect images/localizations to OWOD group
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Set up seminar at CSUMB in December via the ENSCI dept.
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- 902204 - Scalable Marine Robotics Foundations
 - Got Kimera-VIO working on simulated dataset
- Overhead
 - AWS workshop
- Out of Office
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)
 - Vacation Oct 8 - 23

Week 33

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- 902204 - Scalable Marine Robotics Foundations
- Overhead

- Out of Office
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)

Week 32

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Minor improvements to vars-localize
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- 902204 - Scalable Marine Robotics Foundations
 - Started a deep dive into Kimera-VIO
 - Working to evaluate Kimera-VIO out of the box on the PNW dataset
 - Continued development of stereo calibration library
- Overhead
- Out of Office
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)

Week 31

- 200103 - Core CTD Data - MDUC
 - Generated CTD plots for Doc Ricketts 1444-1447
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- 902204 - Scalable Marine Robotics Foundations
 - Finished initial stereo motion estimation framework
 - Rewrote chessboard corner correspondence clustering code
 - Started evaluating Kimera-VIO as alternative framework for visual-inertial SLAM
- Overhead
- Out of Office
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)

Week 30

- 200103 - Core CTD Data - MDUC
 - Caught up on Ventana and Doc Ricketts O2 QC
 - Investigated issue with Ventana 4401 missing CTD data on upcast
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data

- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- 902204 - Scalable Marine Robotics Foundations
 - Continued development of stereo camera calibration library
 - Implemented stereo motion estimator via point cloud registration of triangulated matched keypoints
 - Workshop with GIM re: Stella VSLAM + IMU integration
- Overhead
- Out of Office
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)

Week 29

- 200103 - Core CTD Data - MDUC
 - Received several dives of CTD QC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Worked through some issues with merged bounding boxes
 - Resolved issues with CVision AI model server
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- 902204 - Scalable Marine Robotics Foundations
 - Started integrating stereo camera calibration workflow
- Overhead
- Out of Office
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)

Week 28

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Improvements to the FathomNet Twitter bot
 - Custom image URL handling
 - Slimmed Docker image
 - Ran on JWST first images
 - Generated concept → class mappings for midwater model to be trained by CVision AI
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- 902204 - Scalable Marine Robotics Foundations
 - Created two Python/OpenCV tool libraries: [cv_tools_detection](#) and [cv_tools_calibration](#)
 - Integrating previous code
 - Feature detection: ORB
 - Feature matching: FLANN

- Homography/motion estimation: essential matrix decomposition
 - Mono/stereo camera calibration
 - Calibration validation
 - Calibration visualization
- Writing new code
 - AprilTag-based motion estimation
 - Modular feature detection → matching → homography estimation → camera motion estimation pipeline
 - Utilities for file IO, image manipulation, etc.
- Set up BitBucket pipelines for unit tests, package builds, docs
- Overhead
 - Proposals
- Out of Office
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)

Week 27

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 26

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
 - Completed initial integration of BoxJelly with Deep Sea AI GraphQL API
- 701139 - ML Tracking
 - Wrapped up all data and code for May 24-25 analysis
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 25

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
 - Wrote BoxJelly docs: docs.mbari.org/boxjelly
 - Several improvements
 - Ported to PyQt6 (6.3 non-LTS)

- Better error handling
- More settings
- Began integration with Deep Sea AI database; currently working as read-only view
- 701139 - ML Tracking
 - Wrapped up May 24-25 analysis work to hand off
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 24

- 200103 - Core CTD Data - MDUC
 - Resolved missing ancillary CTD data in VARS for V3750
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
 - Several BoxJelly improvements/fixes
 - Wrote documentation for BoxJelly install & usage; awaiting IS fix before deploying to docs.mbari.org
- 701139 - ML Tracking
 - Wrapping up analysis work of May 24-25 deployments
 - Re-ran CVision AI tracker; extracted full set of tracks from LCM logs
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
 - Moved offices, B208.07 → B208.24
- Out of Office

Week 23

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
 - Started writing track visualization code
 - Working to reconstruct unlogged data for analysis
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 22

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC

- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
 - Working to unify detection, tracking, and vehicle LCM events
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 21

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
 - Reviewed track information from May 2021 data
 - Started generating visualizations of successful tracks in Discovery mode
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Pulled down all localizations and corresponding images from VARS and ML database into Pascal VOC for model training
- 902005 - VARS Annotation Assistance
 - Several new features/fixes to BoxJelly + Cthulhu
 - UI for persistent app settings
 - Track timeline view selection/seeking
 - Cthulhu highlight on track select
 - Read/write deepsea-track artifacts
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 20

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
 - Continued analysis of May 24-25 data; working on generating visualizations of track information
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Met with VIAME and BIIGLE to discuss potential interactions with FathomNet
 - Started working on Medium article for FathomNet-compatible image serving solutions
- 902005 - VARS Annotation Assistance
 - Implemented several BoxJelly features to prepare for VL introduction
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 19

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
 - Started generating visualizations of May 2021 deployment data
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Implemented [keras-model-client](#), a Python client for running images through a remote FastAPI model server
 - Deployed FathomNet Twitter bot on Eione
- 902005 - VARS Annotation Assistance
 - Completed BoxJelly/Cthulhu integration
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 18

- 200103 - Core CTD Data - MDUC
 - Caught up on O2 QC flags for dives through:
 - Doc Ricketts 1438
 - Ventana 4393
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
 - Finished Annosaurus OpenAPI spec: [mbari-media-management/m3-api-docs](#)
- 701139 - ML Tracking
 - Parsed some more ML-Tracking LCM logs to JSON
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Completed and dockerized FathomNet Twitter bot; awaiting deployment
- 902005 - VARS Annotation Assistance
 - Worked with Carlos R. on BoxJelly/Cthulhu setup
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 17

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
 - Continued updating Annosaurus OpenAPI spec
 - Experimented with stoplight.io for generating & managing API docs
- 701139 - ML Tracking
 - Hunted down some missing & overwritten LCM types; working to parse more LCM logs
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Wrote script for ML -> VARS merge

- Ran IoU experiments against ML/VARS localizations
- 902005 - VARS Annotation Assistance
 - Continued to polish BoxJelly + Cthulhu integration
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 16

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
 - Fixed/augmented Annosaurus Swagger schema document
- 701139 - ML Tracking
 - Parsed July 2021 ML-Tracking LCM log data to JSON; will load into Postgres DB
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Patched timecode issue in vars-gridview
 - Completed box-diff for localization difference analysis/ML to VARS DB merge
- 902005 - VARS Annotation Assistance
 - BoxJelly/Cthulhu integration now working; still needs polishing before release
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 15

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
 - Started loading 2019/2020 deployment logs into analysis DB
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Continued development of FathomNet Twitter bot
 - Wrote [box-diff](#) for image set comparison
 - Started writing loader for corrected ML proposals in ML database → VARS
 - Prepared initial data for FathomNet game prototype
- 902005 - VARS Annotation Assistance
 - Continued investigating slow video playback on MacOS
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 14

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series

- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Presented the fathomnet-py Python API in the FathomNet workshop
 - Converted Twitter bot to Apache Airflow DAG
- 902005 - VARS Annotation Assistance
 - Investigated alternative Qt-compatible video decoder plugins/playback frameworks
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 13

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Finished preparation of material for FathomNet workshop
 - Implemented sorting by timestamp in vars-localize for midwater localization effort
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 12

- 200103 - Core CTD Data - MDUC
 - Investigated impact of clogged O2 sensor on loaded CTD data; no issues
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Gave project update 3/21/2022
 - Finished preparing workshop materials for Python API demonstration
- 902005 - VARS Annotation Assistance
 - Looked into ReID/OSNet training
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 11

- 200103 - Core CTD Data - MDUC
 - Caught up on ROV CTD QC flags through Doc Ricketts 1424
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
 - Implemented draggable association buttons in VARS annotation UI; PR submitted
- 701139 - ML Tracking
- 901221 - Midwater Time Series

- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Preparing FathomNet project update & workshop materials
 - Finished writing the plumbing for the FathomNet Twitter bot
- 902005 - VARS Annotation Assistance
 - Ran several trial detection+tracking jobs on AWS SageMaker to tease out any differences in output between deepsort-yolov5 codebase versions
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office
 - 3/18/2022, taking care of father post-op

Week 10

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Started Colab notebook for FathomNet workshop to demonstrate Python client API
 - Started Twitter bot for FathomNet outreach
 - Finished implementation of sharktopoda-client-py; testing client localization sync between BoxJelly and Cthulhu
- 902005 - VARS Annotation Assistance
 - Ran comparisons between several modes of ML inference to check for differences in data products
 - YOLOv5 detect.py with/without --agnostic-nms (agnostic non-maximum suppression)
 - PyTorch Hub model backbone vs. YOLOv5 codebase
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 9

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
 - Loaded ~23k new localizations from ML-Tracking footage into VARS
 - Pulled down new 48k image set for midwater object detector training
 - Finished up dfg-tool for digital video framegrabbing
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 8

- 200103 - Core CTD Data - MDUC

- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
 - Uploaded stereo camera framegrabs for Mini ROV dives 127-129, 149-155
 - Wrote [vars-kb-model-resolve](#) to facilitate specification of ML model classes from sub-trees of VARS KB concepts/parts
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office
 - Vacation 2/22/2022

Week 7

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
 - Preparing stereo cam framegrabs/localizations for ingest to VARS; tracking down several videos that failed to load
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Reworked dfg-tool architecture; testing and preparing to hand off to VL
 - Released vars-localize with Raziel integration
 - Upgraded vars-localize and vars-gridview to support Python 3.10 & Qt 5.15+
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 6

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
 - Collected & parsed stereo cam localizations from several MiniROV dives; preparing for load to VARS
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Upgraded fathomnet-py with support for image tag CRUD operations; released v0.4.1
 - Continued integration of BoxJelly with Cthulhu
 - Revived dfg-tool codebase for automated digital video frame grabbing; modernizing and testing prior to video lab use
- 902005 - VARS Annotation Assistance
 - Met with team for internal project updates on production workflow, detect+track experiments, BoxJelly status
- 902012 - Telepresence on MBARI Research Vessels

- Overhead
- Out of Office

Week 5

- 200103 - Core CTD Data - MDUC
 - Got coredata login set up for CTD servlet maintenance
 - Restarted CTD servlets after IS server patch
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Concluded YOLOv5 output confidence correspondence with reviewed bounding boxes in ML DB
 - Implemented UDP video control and ØMQ localization control toward integration of BoxJelly and Cthulhu
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
 - Reviewed web UI mockup with Kevin G., looking into available Vue libraries & frameworks
- Overhead
- Out of Office

Week 4

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Met with Simon-Martin Schröder to discuss MorphoCluster & brainstorm application to FathomNet
 - Finished integration and testing of vars-localize + Raziel
 - Continued development of sharktopoda-client-py toward BoxJelly + Cthulhu integration
 - Working on correspondence between inference confidence numbers over ML evaluation set and ML database bounding box associations
- 902005 - VARS Annotation Assistance
- 902012 - Telepresence on MBARI Research Vessels
- Overhead
- Out of Office

Week 3

- 200103 - Core CTD Data - MDUC
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Towards BoxJelly/Cthulhu integration: ported ZeroMQ localization controls to Python sharktopoda client library

- Planned YOLOv5 inference rerun on existing framegrabs to estimate prediction confidence
 - Integrated vars-localize with Raziel for VARS login; vars-gridview is next
- 902005 - VARS Annotation Assistance
 - Met with Danelle and Duane to review ML object track proposals in new web dashboard and BoxJelly
- 902012 - Telepresence on MBARI Research Vessels
 - Met with the team to onboard, will assume some Vue development tasks from Kevin G.
 - Reviewed Google drive materials
- Overhead
- Out of Office

Week 2

- 200103 - Core CTD Data - MDUC
 - Set O₂ sensor QC flags for several dozen dives
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
- 701139 - ML Tracking
 - Forming data analysis database for LCM log files
 - Wrote script to auto-generate Postgres schema from LCM type descriptors
 - Spun up GraphQL interface via Postgraphile
 - Wrote loader script to populate database from log file
- 800139 - EyeRIS (Remote Imaging System)
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
 - Started preparing materials for project update and workshop
 - Looking into better workflow to accelerate process of updating exemplary images in VARS KB (images that show up in DSG for a particular concept)
- 902005 - VARS Annotation Assistance
 - Finished implementation of track split, batch rename, and merge features in BoxJelly
- Overhead
- Out of Office

Week 1

- 200103 - Core CTD Data - MDUC
 - Caught up on QC flags up to Doc Ricketts 1411 and Ventana 4382
- 200105 - Core Navigation Data - MDUC
- 500055 - VARS, M3/RS, DSG
 - Started a deep dive into learning Scala 3
- 800139 - EyeRIS (Remote Imaging System)
- 901221 - Midwater Time Series
- 901915 - Improving the Impact of MBARI's Data
- 902002 - FathomNet
- 902005 - VARS Annotation Assistance
 - Implemented several track editing features in BoxJelly
 - Figured out CloudWatch log insights for visualizing logged time series data in the AWS console
- Overhead
- Out of Office