

901103 - Biodiversity and Biooptics of Zooplankton

Week 29

1. Danelle Cline
 - a. Data mining for velella conaria using vector database VSS
 - b. Migrated data out of AWS S3 to qumulo object storage.

Week 28

1. Danelle Cline
 - a. Running VSS (Vector Search System) on planktivore low-mag to search for next stage Velella conaria with augmented examples. So far, none have been found but we have a lot of data to look through.
 - b. Improved memory management of REDIS to reduce storage overhead

Week 27

1. Danelle Cline
 - a. Working on initializing VSS (Vector Search System) with four augmented velella conaria examples. Next steps are vector search in bulk, similar to how velella were mined in the planktivore archives.
 - b. De-duplication code to identify individuals in tracked velella

Week 20

1. Danelle Cline
 - a. Megadetector exported to ONNX format and running on the [modelhub](#).
 - b. Help ticket issued to migrate data to on-site object storage. Waiting for Neil to return to test.

Week 17

1. Danelle Cline
 - a. Summer intern project planning
 - b. Assisting UCSC student with Velella project

Week 14

1. Danelle Cline
 - a. Setup AWS bucket for intelligent tiering storage for Tator mantis instance storage

- b. Transcoded 2019/2018 Doc Rickett dives with 1 second keyframes; started video load which will take a while

Week 7

- 1. Danelle Cline
 - a. Retrained ViTS model for classes with > 100 examples; .89 balanced accuracy
 - b. Tried retraining ViTS model with DinoV3 but ran into troubles with transformer library support and huggingface model gating is a pain.
 - c. Repopulated vector database using ViTS model
 - d. Finished argo workflows for rerunning ViTs and populating with ancillary data from the expedition database for analysis. This will take some time to rerun (classification only), but needed as the last model did not perform well for target species.

Week 6

- 1. Danelle Cline
 - a. ~8K video files processed from 2018-2020 for data mining through k3.
 - b. Added VARS media tap loader to unify downloads with [aidata](#)

Week 5

- 1. Danelle Cline
 - a. Mined 2018 and 2019 DocRicketts dives at 3 second stride for species. Preparing report for Haddock.

Week 4

- 1. Danelle Cline
 - a. Processing all of 2018 DocRicketts dives with Argo workflow on kubernetes cluster. Roughly 2800 video files. When processing is complete, a report with associated metadata will be generated for closer inspection.
- 2. Duane Edgington
 - a. Project discussion with Danelle.

Week 2

- 1. Danelle Cline
 - a. Finished Argo ONNX based workflow <https://github.com/mbari-org/argo-workflows> with optional vector database integration
 - b. Training new RF DETR megadetector model with targeted depth range 200-2000 meters
- 2. Duane Edgington

- a. Project discussion with Danelle.