Alexandra (Alex) Lapides

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EDUCATION

University of California, Santa Cruz, CA
B.S. Ecology and Evolution (honors)   Graduated 2018

WORK AND INTERNSHIPS

Research Assistant, Video Lab   2019 – present
Monterey Bay Aquarium Research Institute, Moss Landing, CA
- Creating training datasets for machine learning. This project will be applied to autonomous robots as well as our 30-year underwater video database, and will also be made available to the public.
- Learning expert-level midwater species identification in order to identify everything seen on video.

Research Assistant, Haddock Lab   2018 – present
Monterey Bay Aquarium Research Institute, Moss Landing, CA
- Creating data visualization pipelines for MBARI's 30-year environmental dataset. This is accomplished by writing custom scripts in R and working via command line and remote servers.
- Participant on multiple research cruises. As a part of my responsibilities I collected, froze, and fixed stable isotope and DNA metabarcoding samples. I also mentored multiple interns through lab protocol and data collection.
- Monitored and remotely controlled long range autonomous underwater vehicles. These vehicles capture and return live ocean conditions and other oceanographic data.

Water Quality Technician   2019
Elkhorn Slough Foundation, Watsonville, CA
- Calibrated, deployed, and recovered YSI sondes as part of long-term water quality monitoring. As such, we swapped active sondes on a weekly basis in order to maintain a continuous time series.
- Collected and filtered water quality samples on a monthly basis to obtain chlorophyll counts.
- Downloaded and processed monthly weather station data. Also assisted with minor weather station repairs, installations, and maintenance.
- Uploaded relevant water quality, nutrient, and weather data to the NOAA National Estuarine Research Reserve database.

UAV Specialist and Image Processing Technician   2017 – 2019
Elkhorn Slough Foundation, Watsonville, CA
- Served as a primary observer for scientific drone flights. Was also involved in flight planning.
- Processed imagery in DroneDeploy, Agisoft, and ArcMap. The main data products were digital elevation models (DEMs) and orthomosaics. Additionally, wrote custom scripts and GIS tools to augment the workflow.
- Ran unsupervised and supervised classifications to extract information about sediment and vegetative stress.
- Created and maintained an organized file database for incoming data.

Manatee Research Intern   2018
Mote Marine Laboratory, Sarasota, FL
- Main duties included data entry in Microsoft Excel and Access. Additionally, I operated a handheld GPS and produced waypoint maps in Arcmap.
- Learned to Photo-ID manatee scars in order to track individual manatees throughout their lifespan.
- Created photoshop sketches of individual scar patterns to act as a reference database.
- Participated in synoptic aerial surveys to locate and quantify manatee populations.
- Was responsible for field work prep, including charging trolling motor batteries and packing and cleaning all scientific equipment. While in the field, I operated the trolling motor, assisted with loading/unloading, trailering, and docking the vessel, and helped to spot manatees.
- By the end of the internship, I performed solo land-based surveys which involved driving to multiple sites, spotting manatees, and collecting relevant photos and data. I also trained the following intern in these procedures.
- Occasionally participated in necropsies for sea turtles and melon headed whales. As part of the melon headed whale necropsy I acted as a radiogram assistant.
- Participated in dolphin population monitoring, which involved spotting and photographing dolphin populations from the boat, as well as recording relevant information.
- Participated in dolphin diet assessment research, involving deploying nets, handling and identifying various fish species, and collecting size class data.

Teaching Assistant   2018

Live Oak Elementary, Santa Cruz, CA
- Teachers aide for elementary school class. Worked directly with students in small groups.

Remote Sensing Technician   2018

University of California, Santa Cruz, CA
- Processed satellite imagery of Santa Cruz via supervised classification. The goal of the project was to map tree canopy through satellite imagery.
- Performed manual quality control on resulting classification through a multi-step ArcMap workflow.
- Learned to work with remote desktops and manage large datasets.

Salt Marsh Research Intern   2015 – 2018

University of California, Santa Cruz, CA
- Over 300 hours logged in various tasks assisting with ecological field research. These include regular field maintenance, boat support for eelgrass restoration dives, setup for both eelgrass and marsh shore experiments, in-lab sample processing for biomass estimates, and species identification.
- The research themes generally revolved around sedimentation, community ecology, eelgrass health, and trophic cascade interactions.

Resident Illustrator   2017

University of Queensland, Brisbane, QLD
- Worked with scientists to produce illustrations for publications.

Biogeography Project and Paper   2017

University of Queensland, Brisbane, QLD
- Analyzed large datasets to find correlations between cnidarian life history patterns and geographic ranges. Used a linear mixed effects model for statistical rigor.
- Reported results in journal-formatted paper.

Compensated Salt Marsh Project   2016

University of California, Santa Cruz, CA
- Funded by The Ocean Foundation to build and install hardware in salt marsh field experiment. Required coordinating with volunteers and traveling via boat to field sites.

Otter Tracking Research

2016

Elkhorn Slough National Estuarine Reserve, Elkhorn, CA
- Assisted in spotting, tracking, and monitoring resident otter population via radio collars.

Ecology Research and Paper

2016

University of California, Santa Cruz, CA
- Collected data on species richness and abundance. Wrote peer-reviewed papers.

Stable Isotope Intern

2016

University of California, Santa Cruz, CA
- Processed 75 stable isotope samples as a part of a fisheries study.

Sea Otter Diet Research Intern

2016

University of California, Santa Cruz, CA
- Sorted and identified organisms in over 50 scat samples to determine sea otter diet composition.

Whale Watch Intern

2015

Seven Seas Whale Watch, Gloucester, MA
- Learned to spot and identify various whale and bird species aboard a whale watch.
- Photographed individual fluke patterns for the Center for Coastal Studies database.
- Gave an educational talk to passengers about whale biology and answered questions.
- Spent 12 hours per day on vessel and assisted with docking and other ship responsibilities.

Coral Restoration Foundation Volunteer

2013

Key Largo, FL
- Worked with scientists to grow, plant, and restore staghorn coral to its natural habitat.
- Conducted multiple working dives.

Teen Ocean Summit Delegate

2012

Boston, MA
- Nominated to present green crab intertidal research to peers.

CERTIFICATIONS and AWARDS

First Aid/CPR Certified	2019
Esri Cartography Online Course	2018
About Boating Safety Course	2018

Dean's Honors award (5x recipient) at University of California, Santa Cruz	2016-18
Campus Merit Scholarship recipient at University of California, Santa Cruz	2014-18
Esri Location Analytics Online Course	2017
Esri Imagery Analysis Online Course	2017
Emergency Oxygen Provider Certificate	2017
PADI Advanced Open Water Scuba (including underwater navigation)	2013
PADI Open Water Scuba	2013
National Latin Exam, Silver Medalist	2013
National Latin Exam, Gold Medalist	2011, 2012

POSTERS and PRESENTATIONS

State of the Estuary – Poster Session   2019
UAV imagery provides critical information for marsh restoration

Ocean GIS Forum – Presentation   2018
Using a UAV to monitor salt marsh restoration