

# Margaux FILIPPI

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Machine Learning (ML) engineer with a background in Applied Ocean Sciences & Engineering. Track record of building Computer Vision (CV) pipelines from concept to deployment and leading cross-functional innovation in fast-paced startup environments.

## SKILLS

Technical Frameworks	Applied ML, including Deep Learning and clustering, 2D/3D Computer Vision, Data Science, Oceanography
Languages	PyTorch, TensorFlow, XGBoost, YOLO, Python, Julia, ROS2, MATLAB, Bash, VCS, AWS, GCE
	French : Native; English : Bilingual proficiency; German : Elementary; Spanish : Elementary

## EXPERIENCE

2024/02 - present	<b>Computer Vision Engineer</b> , AQUA SATELLITE, <i>Mountain View, CA</i> <ul style="list-style-type: none"><li>Built from scratch and deployed perception systems for low-cost Autonomous Underwater Vehicles, including hardware selection, data pipelines and real-time ML models.</li><li>Designed 2-D/3-D perception systems for obstacle avoidance and underwater object detection.</li><li>Led data product development and mentored an intern, leading to their hire as a full-time engineer..</li></ul>
2022/07 - 2023/11	<b>Senior Principal Engineer</b> , OUR NEXT ENERGY (ONE), <i>Fremont, CA</i> <ul style="list-style-type: none"><li>Developed ML-based solutions for battery manufacturing R&amp;D, including 6% accuracy increases for predictive models.</li><li>Automated cell testing software, increasing throughput by orders of magnitude.</li></ul>
2022/02 – 2022/06	<b>Ocean Program Manager &amp; Technical Lead</b> , OPEN EARTH FOUNDATION, <i>Remote / Los Angeles, CA</i> <ul style="list-style-type: none"><li>Set up and managed the Ocean Program to leverage AI for marine conservation.</li></ul>
2021/11 – 2022/01	<b>Computer Vision Engineer</b> , NUMINA, <i>Remote / Brooklyn, NY</i> <ul style="list-style-type: none"><li>Upgraded ML pipelines, leading to a 13% average accuracy improvement in 3 months.</li></ul>
2021/01 – 2021/11	<b>Director of Ocean Science</b> , RUNNING TIDE TECHNOLOGIES, INC., <i>Remote / Portland, ME</i>
2020/03 – 2021/01	<b>Data Scientist / Oceanographer</b> <ul style="list-style-type: none"><li>Built from scratch CV/ML models and machine vision systems for aquaculture.</li><li>Directed ocean science research for macroalgae-based carbon capture, including field experiments and geospatial analyses.</li></ul>
2019/09 – 2021/11	<b>Affiliate Researcher</b> , ENVIRONMENTAL DYNAMICS LAB (ENDLAB), MIT, <i>Cambridge, MA</i>
2013/06 – 2019/05	<b>Graduate Research Assistant</b> <i>Sc.D. advisors : I. Rypina, WHOI department of Physical Oceanography &amp; T. Peacock, ENDLab</i> <i>M.S. advisors : T. Peacock, ENDLab &amp; J.-L. Thiffeault, UWisc. - Madison department of Mathematics</i> <ul style="list-style-type: none"><li>Developed unsupervised ML methods to reduce sensitivity to user biases, with applications to oceanic flows.</li><li>Designed and conducted laboratory and field experiments, using CV analyses for dye plumes, fluid flows and object tracking.</li><li>Senior mentor &amp; student-executive in a machine shop; teaching assistant for multiple academic and professional courses.</li></ul>
2019/07 – 2019/09	<b>R&amp;D Contractor</b> , ARPA-E MARINER PROGRAM, U.S. DEPARTMENT OF ENERGY, <i>Remote / Washington, D.C.</i> <ul style="list-style-type: none"><li>Conducted satellite-based geospatial R&amp;D and oceanographic simulations for a macroalgae-based carbon capture project.</li></ul>
2012/06 – 2013/05	<b>Junior Oceanographer</b> , SEA ENGINEERING, INC., <i>Waimanalo, HI</i>
2011/02 – 2012/05	<b>Ocean Engineering Intern (part-time)</b> <ul style="list-style-type: none"><li>Field scientist and engineering assistant for various projects, aiding with field work, drafting and flow simulations.</li></ul>

## EDUCATION

2019	<b>Sc.D. Massachusetts Institute of Technology (MIT) &amp; Woods Hole Oceanographic Institution (WHOI)</b> Doctor of Science in Mechanical and Oceanographic Engineering
2016	<b>M.S. Massachusetts Institute of Technology</b> Master of Science in Mechanical Engineering
2012	<b>B.S. Hawai'i Pacific University</b> Bachelor of Science <i>magna cum laude</i> in Oceanography & Pure Mathematics

## REFERENCES

Multiple references available upon request.