

Margaux FILIPPI

[in](#) margauxfilippi [@](#) margauxf@alum.mit.edu [G](#) Patents [G](#) Scholar [github.com/margauxf](#)

EXPERIENCE

- 2022/07 - 2023/11 **Senior Principal Engineer**, OUR NEXT ENERGY (ONE), *Fremont, CA*
- Developed ML-based solutions to accelerate R&D for battery manufacturing.
 - Developed a predictive model for battery life with 10% MAPE compared to 16% in state-of-the-art academic literature.
 - Projects included predictive models to increase factory throughput and CV algorithms for materials science automation.
 - Led the buildup of the cell lab and built software to automate cell testing, increasing throughput by orders of magnitude.
- 2022/02 – 2022/06 **Ocean Program Manager & Technical Lead**, OPEN EARTH FOUNDATION, *Remote / Los Angeles, CA*
- Set up and managed the Ocean Program to leverage AI for marine conservation.
 - Created technical methodologies, including ML proof-of-concepts, for the issuance and verification of ecosystem credits.
- 2021/11 – 2022/01 **Computer Vision Engineer**, NUMINA, *Remote / Brooklyn, NY*
- Upgraded ML pipelines, leading to a 13% average accuracy improvement in 3 months.
 - Created technological roadmaps and trained an ML engineer in Computer Vision.
- 2021/01 – 2021/11 **Director of Ocean Science**, RUNNING TIDE TECHNOLOGIES, INC., *Remote / Portland, ME*
- 2020/03 – 2021/01 **Data Scientist / Oceanographer**
- Designed, developed and deployed CV and ML models to automate and scale production.
 - Co-designed the machine vision systems for image acquisition and processing.
 - Directed the ocean science research for the development and scaling of macroalgae-based carbon capture.
 - Designed and oversaw field pilot experiments, leading an interdisciplinary scientific and operational team.
 - Conducted geospatial analyses and oceanographic simulations to guide site selection.
- 2019/09 – 2021/11 **Affiliate Researcher**, ENVIRONMENTAL DYNAMICS LAB (ENDLAB), MIT, *Cambridge, MA*
- 2013/06 – 2019/05 **Graduate Research Assistant**
- Sc.D. advisors : I. Rypina, WHOI department of Physical Oceanography & T. Peacock, ENDLab*
- M.S. advisors : T. Peacock, ENDLab & J.-L. Thiffeault, UWisc. - Madison department of Mathematics*
- Developed unsupervised machine learning methods to reduce sensitivity to user biases, with applications to oceanic flows.
 - Designed and conducted laboratory and field experiments, using CV analyses for dye plumes, fluid flows and object tracking.
 - Senior mentor & student-executive in a machine shop; teaching assistant for multiple academic and professional courses.
- 2019/07 – 2019/09 **R&D Contractor**, ARPA-E MARINER PROGRAM, U.S. DEPARTMENT OF ENERGY, *Remote / Washington, D.C.*
- Conducted satellite-based geospatial R&D and oceanographic simulations for a macroalgae-based carbon capture project.
- 2012/06 – 2013/05 **Junior Oceanographer**, SEA ENGINEERING, INC., *Waimanalo, HI*
- 2011/02 – 2012/05 **Ocean Engineering Intern (part-time)**
- Field scientist and engineering assistant for various projects, aiding with field work, drafting and flow simulations.

SKILLS

Technical	Applied Machine Learning (ML) , including Deep Learning and clustering, Computer Vision (CV) , Data Science PyTorch, TensorFlow, XGBoost, YOLO, Python, Julia, MATLAB, Bash, VCS, AWS, GCE
Frameworks	
Other	
	Documentation, technical communication, extensive teaching & mentorship experience. SSI DiveMaster.

EDUCATION

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

REFERENCES

Multiple references available upon request.