

Davide Crupi

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ABSTRACT

Marine Biologist and Ecologist with a Master's degree and experience in advanced data analysis and predictive modeling applied to biodiversity studies, ecological dynamics, and conservation of vulnerable ecosystems. Passionate about collecting, processing, and interpreting ecological data, I strongly believe in citizen science initiatives as innovative approaches to expand environmental datasets. Additionally, I am dedicated to designing and developing technological solutions and software tools to enhance the efficiency of ecological data management and facilitate their application in research and conservation strategies.

EDUCATION

University of Genoa, Genoa, Italy

Master's Degree in Marine Biology and Ecology

December 2024

Thesis: *Relationships between Krill and Top Predators in the Ross Sea Based on Predictive Distributions and Machine Learning Algorithms*

[Link to Thesis](#)

PUBLICATIONS

Guzzi, A., Schiaparelli, S., Merulla, N., Crupi, D., & Grillo, M. (2024). *Stranding of *Porpita porpita* (Cnidaria, Hydrozoa) in Ligurian coast: sampling bias or evidence of a warming sea?* Marine and Fishery Sciences (MAFIS), 37(1), 103–111. <https://doi.org/10.47193/mafis.3822025010103>

EXPERIENCE

Stranding Citizen Science Project

Co-founder and Developer

2024 – Present

- Developed an Android app for global collection of stranding reports with geolocation, organism counts, and photos
- Building a parallel web platform to support iOS users and expand accessibility
- Designing a self-hosted system connecting a DarwinCore-structured database with multiple devices
- Developing web-based interactive maps and statistics dashboards for real-time data visualization

APECS Italy (Association of Polar Early Career Scientists)

Board Member and Web Developer

March 2024 – Present

- Leading the development of the association's official website to increase visibility and member engagement
- Collaborating with the national board to coordinate outreach and scientific communication initiatives

Independent Research Projects

Software Developer and Data Scientist

Ongoing

- Created a semi-automated pipeline for fish segmentation and multiclass identification using OpenCV and deep learning models
- Designed data collection software for environmental variables to build species distribution matrices for machine learning models
- All projects available at: [linkedin.com/in/davide-crupi](https://www.linkedin.com/in/davide-crupi)

ACTIVITIES

APECS Italy National Conference

Oral Presenter

November 2023, October 2024

- Presented master's thesis research on species distribution modeling and predator-prey dynamics in the Ross Sea

University of Genoa – Master's Program in Marine Biology and Ecology

Speaker

2024

- Delivered two talks to Zoology students about the Stranding Citizen Science project and its applications

SKILLS & INTERESTS

Technical Skills: Working knowledge of Python, R, Kotlin, HTML, CSS, and JavaScript. Comfortable using LLM-based tools to accelerate the development of functional, goal-oriented software. Experienced with QGIS (including Python scripting), OpenCV, TensorFlow, Conda, CUDA, Git, and Android Studio.

Data & Systems: Competent in API design and implementation, 3D model generation/editing, server setup for remote data access, and command-line package/library management. Familiar with Google Sheets, Excel, PowerPoint, and basic image processing workflows.

Laboratory Skills: Basic dissection of marine organisms and slide preparation for microscopic analysis.

Languages: English (B2, Cambridge certified), Italian (native).

Interests: Science Communication, Marine Ecology, Machine Learning, Citizen Science.