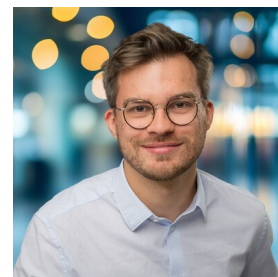


Piet Brodowski

DATA ANALYST AND UNDERWATER COMPUTER VISION SPECIALIST



Education

University of Haifa

MARINE TECHNOLOGY (MASTER OF SCIENCE)

Haifa, Israel

Oct. 2022 - Jul. 2025

- Master thesis titled: "Reference-Based Local Color Reconstruction of Underwater Images"
- Scholarship from the Maurice Hatter Foundation
- Excellence Scholarship for Master's Degree Students at University of Haifa
- Average grade of 1.7 (89%)

Technische Hochschule Köln

MEDIA TECHNOLOGY

Cologne, Germany

Oct. 2021 - Feb. 2022

- Publication "Investigation into the Dependence of Localization Sharpness and Reproduction Order Of Higher Order Ambisonics Loudspeaker Playback Systems Using Head Tracking in VR"

Hochschule Düsseldorf University of Applied Sciences

MEDIA ENGINEERING (BACHELOR OF ENGINEERING)

Düsseldorf, Germany

Oct. 2017 - Jan. 2022

- Bachelor thesis titled: "Investigating the Perception of Road Traffic Noise Using Virtual Environments"
- Average grade of 1.7 (89%)

Norwegian University of Science and Technology

ERASMUS MOBILITY

Trondheim, Norway

Aug. 2019 - Dec. 2019

- Coursework inter alia in Digital Signal Processing, Environmental Acoustics, and Space Technology

Mt. Vernon High School

EXCHANGE PROGRAM

Fortville, IN, USA

Aug. 2013 - Jun. 2014

- National Guard Engineering Education Program

Gymnasium Große Schule

ABITUR

Wolfenbüttel, Germany

Aug. 2007 - Jun. 2016

- AP Courses: Physics, Biology, English

Professional Experience

COLOR Lab / University of Haifa

RESEARCH ASSISTANT / GRADUATE RESEARCHER

Eilat, Israel

Oct. 2022 - Dec. 2024

- Conducted full-time research as part of a funded Master's thesis project in underwater imaging
- Designed and implemented deep learning pipelines to reconstruct spectral information in underwater images
- Collected, cleaned, and preprocessed large datasets of underwater imagery and associated metadata
- Implemented and evaluated CNNs, GANs, and diffusion models for image enhancement and restoration
- Collaborated with an international, interdisciplinary team of biologists, physicists, computer scientists, and space engineers
- Contributed to the development and field testing of an underwater sensor fusion platform combining LiDAR and camera data
- Created image enhancement algorithms based on segmentation and patch-based color statistics
- Initiated a database of camera sensitivity curves by measuring spectral response across various imaging devices to support reproducibility

The Hebrew University of Jerusalem

TEACHING ASSISTANT

Eilat, Israel

Jan. 2024 - Juli 2024

- Conceptual design of laboratory work in the Underwater Colorimetry course
- Preparation and follow-up of the teaching events in the Underwater Colorimetry course

COLOR Lab / University of Haifa

RESEARCH INTERN

Eilat, Israel

Mar. 2022 - Sept. 2022

- Fully funded by the Young Scientists Exchange Program (YSEP) by the Federal Ministry of Education and Research of Germany and Ministry of Science and Technology of Israel
- Developed a framework to preprocess images for later use with the Sea-thru algorithm by Dr. Derya Akkaynak, the head of the COLOR Lab
- Developed a suite of Python scripts to automate the workflow for underwater photogrammetry for 3D scene reconstruction

BBM Testlab

INTERN

Munich, Germany

Oct. 2020 - Feb. 2021

- Developed a test procedure for the comparability of voice assistants in consumer devices
- Laboratory work in the field of product consulting for consumer devices

Skills

Languages German (native), English (excellent), Latin (basic)

Software Python (Pytorch, Keras, TensorFlow, NumPy, Pandas, OpenCV, Matplotlib, Scikit-learn), Git, Matlab, Linux, Agisoft Metashape

Extracurricular

PRECIOUS PLASTIC open hardware plastic recycling project

Düsseldorf, Germany

TEAM LEADER RESPONSIBLE FOR SHREDDER AND INJECTOR

Apr. 2019 - Jan. 2022

- Communication and negotiation with sponsors
- Construction of a shredder to cut up various plastic parts
- Construction of an injector for forming new parts from recycled plastic

Technical School of Film and Animation 3

Duisburg, Germany

3D-DEPARTMENT

Apr. 2019 - Sept. 2019

- Acquiring 3D data of "Landschaftspark Nord" in Duisburg using a Faro 3D-scanner
- Acquiring and processing of photographs for photogrammetry
- Mapping texture resulting from photogrammetry to 3D point cloud model of 3D-scanner

e-Traxx

Düsseldorf, Germany

MECHANICAL TEAM

Oct. 2018 - Jul. 2019

- Designed the gas pedal for a Formula Student race car
- Maintenance and mechanical work on a Formula Student race car

UNISON Festival

Düsseldorf, Germany

HEAD OF VIDEO TEAM "BACHELORSTAGE"

Feb. 2019 - May 2019

- Planned video production for live stream of music festival during planning phase
- Multi view video cutting the live stream during the festival

Conferences and Courses

CONFERENCES

- 2024 **London Imaging Meeting (LIM)**, Attendee
- 2023 **Color and Imaging Conference (CIC)**, Attendee
- 2023 **Artificial Intelligence and the Sea (SeaAI)**, Attendee
- 2022 **CLIMATE | OCEAN | CHANGE**, Attendee
- 2022 **LiveCom-LAB Conference**, Speaker

London, England

Paris, France

Haifa, Israel

Haifa, Israel

Gießen, Germany

RELEVANT COURSES

- 2025 **Deep Learning Specialization**, Coursera
- 2023 **Underwater Colorimetry**, Inter University Institute Eilat
- 2023 **Computer Vision**, Tel Aviv University
- 2022 **Fundamentals of Deep Learning**, Nvidia Deep Learning Institute
- 2022 **Digital Image Processing**, TH Köln
- 2020 **Advanced Image Technology**, UAS Düsseldorf
- 2019 **Basics of Image Technology**, UAS Düsseldorf
- 2019 **Space Technology I**, NTNU Trondheim

Interests

Music: Drummer in a band, **Diving:** Leading dives as a Divemaster, **Motorcycles:** Restoration of vintage motorcycles