MUHAMMAD SHULHAN JIHADI

mail.shulhan@gmail.com | linkedin.com/in/mshulhanj | github.com/shlhnj/ | Yogyakarta, Indonesia

PROFILE

I hold a Bachelor degree in Oceanography with a strong background on satellite remote sensing, GIS, cartography, and ecological modelling. I have a proven track records of both technical and managerial skills developed through conducting research, experience leading teams, and writing scientific articles.

EDUCATION

Universitas Diponegoro: B.Sc Oceanography **Semarang, Aug 2019 – June 2023**

- Bachelor of Science - B.Sc, Oceanography | Final GPA: 3.58/4.00
- Specialized in marine ecological modelling using diverse remote sensing data and GIS methods.
- Thesis: Modelling of Pygmy Blue Whale *(Balaenoptera musculus brevicauda)* Migration Corridor in Savu and Banda Sea Using Circuit Theory (access in university repository)

RESEARCH EXPERIENCE

Research Assistant: COREM – Universitas Diponegoro **Semarang, May 2023 – Present**

Center for Coastal Rehabilitation and Disaster Mitigation Studies (CoREM) Universitas Diponegoro

- Assist Prof. Dr. Ir. Muhammad Zainuri DEA, in conducting research along the northern coast of Central Java, with a primary focus on marine ecology and coastal environments.
- Lead multiple teams in conducting field surveys across locations including Pekalongan, Jepara, Pemalang, and Batang.
- Aid in drafting proposals, budget plans, timelines, and team management to ensure efficient project execution and alignment with research goals.
- Co-authored some research articles:
    1. Determination of chlorophyll-a and its distribution in the waters of the mangrove forest rehabilitation area in Mojo Estuaria, Pemalang. http://dx.doi.org/10.14710/jkt.v27i2.23253
    2. Geospatial Modeling of the Nitrate Distribution as an Indicator of Aquatic Fertility in the Lagoon Waters of the Mangrove Information Center (PIM), Pekalongan. http://dx.doi.org/10.14710/jkt.v27i3.24081
    3. Books: Buletin Geomaritime XIV Juni 2022 – Parangtritis Geomaritime Science Technopark
    4. Assessment and Characterization of Microplastics in Aquatic Environments of Pekalongan Waters *(in press)*
    5. Coastal Vulnerability Index Analysis in The Mangrove Rehabilitation Area, Mojo, Pemalang *(in press)*
    6. Annual Variability of Chlorophyll-a and Total Suspended Solid as an Indicator of Aquatic Fertility in the Lagoon Waters of the Mangrove Information Center (PIM), Pekalongan *(in press)*
    7. Monitoring Emerging Pollutants and Oceanographic Parameter in Coastal Pekalongan Waters: A Time Series Analysis (2021-2024) *(in press)*
    8. Time Series Analysis on Chlorophyll-a as Eutrophication Indicator Using A Geospatial Approach in Pekalongan Coastal Area *(in press)*

WORK EXPERIENCE

Hydrographic Surveyor: PT Fifan Jaya Makmur **East Nusa Tenggara, July 2024-Aug 2024**

- Conducted Hydrographic survey such as bathymetric survey, seafloor & sub-bottom profiling, and current measurement in West Manggarai and Maumere, East Nusa Tenggara
- Operated marine instrument such as Marine GPS Hemisphere 330, Odom Hydrotrac II, and Current Meter Valeport 106 while also assisting to use Side-Scan Sonar and Sub-bottom profiler
- Used software such as Hypack, Pocket Max, and Valeport Data Logger

GIS Technician: BRGM **Semarang, July 2023-Sept 2023**

BRGM is Peatland And Mangrove Restoration Agency of Republic of Indonesia. This projects is a collaboration between BRGM and Universitas Diponegoro for National Mangrove Map.

- Processed Sentinel-2 Image using Google Earth Engine and ArcGIS
- Delineated vast mangrove forest for East Kalimantan region (around 127,346.92 km2)
- Assisted Dr. Muhammad Helmi, S.Si., M.Si in providing guidance and directions for the junior students

Teaching Assistant: Universitas Diponegoro **Semarang, Aug 2021 – Nov 2022**

- Assisted teaching practical skill in several subject: Remote Sensing, GIS, Coastal Multihazard, and Disaster Mitigation. Provided hands-on guidance and mentoring to students, explained complex concepts in a clear and concise manner
- Coordinated a team of 10 assistants, overseeing the planning and execution of practicum sessions for younger students (100+) across three different departments.
- Developed tailored curriculum and lesson plans, aligning them with the specific learning objectives and needs of each practicum.

ORGANIZATION EXPERIENCE

REGISTER UNDIP

Remote Sensing and Geographic Information System Technology and Research is a student research club in the Faculty of Fisheries and Marine Science, Universitas Diponegoro, that focuses on the usage of satellite and geospatial analysis for coastal and marine application.

President **Semarang, Jan 2022 – Dec 2022**

- Led a student research club comprised of 45 members, fostering a collaborative and growth-oriented environment.
- Developed a comprehensive learning curriculum for the organization, incorporating the cutting edge technology and concepts in remote sensing and geographic information system technology
- Directed the organization to overcome challenges during the post-COVID transition, conceptualizing strategies and initiatives to adapt effectively
- Supervised the execution of projects and programmes, ensuring their successful and timely completion.

Research and Development staff **Semarang, March 2021 – Dec 2021**

- Organized webinars and sharing sessions to improve members' research competency
- Executed flexible methods for conducting organizational programs during the COVID situation

- Disseminated newest technology for collaboration with external partners
- Highest annual performance among members of 2021 period

SKILLS

- Language:

  Native / Mother tongue(s) : Bahasa Indonesia, Javanese

  Other languages : English (C1/IELTS Band:7.5) – British Council – 09/12/2023

- Digital Skills:

  Ecological Modelling : Maxent, Molusce, Omniscape, Syncrosim

  Geographic Information System : ArcGIS, QGIS

  Remote Sensing : Google Earth Engine, SNAP

  Programming Language : R, Python, Julia, HTML, CSS

- Training and Workshops:

  Data Visualization – Kaggle 01/11/2024

  Earth Observation of Blue Carbon Ecosystem – NASA 28/10/2024-30/10/2024

  Using Spatial Data for Biodiversity – United Nations Development Programme – 11/09/2024

  Invasive Species Monitoring with Remote Sensing – NASA 14/08/2024 – 28/08/2024

  Spatial Data Science: The New Frontier In Analytics – ESRI 28/10/2021 – 09/12/2021

  Species Distribution Modeling With Remote Sensing – NASA 12/08/2021 – 19/08/2021

  Cartography – ESRI 06/02/2021 – 20/03/2021

  Hyperspectral Data For Land And Coastal Systems – NASA 19/01/2021 – 02/02/2021