

AKASH. S (AKASH SOMASEKHARAN)

Oceanography Researcher | Data Scientist | Scientific Consultant
Earth Science, Medical, Business, Finance, Bioinformatics, Agri., +

📍 Alappuzha District, Kerala, India

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GitHub: <https://github.com/akashspunnayil/>

ResearchGate: <https://www.researchgate.net/profile/Akash-Somasekharan>

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D.O.B: 12-03-1996

PROFILE

Data scientist with over 7 years of experience in working with satellite, reanalysis, in-situ, and model datasets, biogeochemical modeling, data analysis, scientific programming, and cross-domain research. Proven expertise in exploratory data analysis (EDA), statistical modeling, and machine learning for solving real-world problems using structured and unstructured datasets. Adept at translating complex data into actionable insights through clean code, reproducible workflows, and impactful visualizations. Focused on applying analytical skills and domain knowledge to advance actionable research. See more: <https://akashs.streamlit.app/>

SKILLS & EXPERTISE

- Data analysis and Reporting
- Statistical analysis & modelling
- Data analysis, Scientific programming and Predictive modelling (ML/DL)
- Cruise-based hydrography (CTD, RBR, onboard sampling)
- High-Performance Computing (HPC) & Cloud Computing experience and Big Data Management
- Scientific communication & collaboration
- Dash board and Web app development (Streamlit)

PROGRAMMING & SCRIPTING

- Python (data wrangling, visualization, ML, automation)
- R (statistical analysis, GAM)
- FERRET (oceanographic analysis)
- FORTRAN (model configuration & legacy scripts)
- Shell scripting (batch processing, HPC automation)

SOFTWARE & TOOLS

- QGIS, ArcGIS – geospatial mapping
- Git / GitHub / GitLab
- SEAScope, Panoply – model & remote sensing visualization
- Microsoft Office and LaTeX – documentation & reporting

OPERATING SYSTEMS

- Linux (Bash, remote compute, HPC jobs)
- Windows

LANGUAGES

- English (fluent – written & verbal)
- Hindi (professional working proficiency – written & verbal)

RESEARCH INTERESTS

Earth Science, Medical, Business, Finance, Bioinformatics, Agriculture, Artificial Intelligence

EDUCATIONAL QUALIFICATIONS

- Ph.D. in Physical Oceanography** (Jan 2021 – Ongoing) | KUFOS, Kochi, India
- Integrated B.Sc.–M.Sc. in Climate Change Adaptation** (2013 – 2018) | ACCER (now CCCES), KAU, Thrissur, India - Overall: 72.6% (B.Sc.: 70%, M.Sc.: 78%)
- Higher Secondary (Plus Two) – Bio, Maths, Chem** (2011 – 2013) | HSS Muthukulam, Kerala, India – 74%
- SSLC** (2010 – 2011) | Kopparethu HS, Alappuzha, Kerala, India – 87%

CERTIFICATIONS & DIPLOMAS

- Professional Diploma in Artificial Intelligence** | IPCS Global, Kochi, India | June 2024 – Ongoing
- Sail Diploma Training & Scientific Crew** | Statsraad Lehmkuhl Expedition (Maputo to Cape Town) | Jan 3–13, 2023
- Modeling Training – HYCOM-ECOSMO** | NERSC, Bergen, Norway | May 21 – June 19, 2022

PROFESSIONAL EXPERIENCES AND PROJECTS

- Senior Research Fellow – EU H2020 COMFORT Project** | NERCI, Kochi, India | Apr 2022 – Jan 2024
- Junior Research Fellow – EU H2020 COMFORT Project** | NERCI, Kochi, India | Mar 2020 – Mar 2022
- Young Professional–II – ICAR–NICRA Project** | CMFRI, Kochi, India | Apr 2019 – Mar 2020
- Highly Skilled Staff – Fisheries Research Project** | CMFRI, Kochi, India | Sep 2018 – Mar 2019
- M.Sc. Thesis Student – Fisheries Oceanography** | CMFRI, Kochi, India | Oct 2017 – Aug 2018

FREELANCE CONSULTING, PROJECTS AND BLOGS

Delivered analytics and scripting support for M.Sc./Ph.D. students and researchers across academic and applied domains using Python.

Recent Projects:

- Air Pollution Hotspot Tool** – CLI/Jupyter-based ranking of urban hotspots
- Water Quality Analysis** – Automated scripts for spatiotemporal survey data
- Car Price Prediction** – ML models and dashboards for pricing insights.
- Diabetes Risk Classifier** – Supervised learning for risk prediction with PDF outputs.
- argohycom-toolbox** – Python module for BGC Argo-HYCOM colocation.
- Sea Level Trend Detector** – Sliding window algorithm for spatial change analysis.
- Technical Writing & Blogs** – <https://aireenproject.wordpress.com/author/akashspunnayil/>

PUBLISHED ARTICLES (Top 5 only)

<https://doi.org/10.1007/s10872-025-00744-0>. (2025-01 | journal-article)
<https://doi.org/10.1016/j.rsma.2023.103364>. (2024-02 | journal-article)
<https://doi.org/10.1016/j.rsma.2021.101986>. (2021-11 | journal-article)
<https://doi.org/10.1016/j.rsma.2021.101850>. (2021-07 | journal-article)
<https://doi.org/10.1080/01490419.2018.1553805>. (2019-01-02 | journal-article)

MEMBERSHIPS

The Oceanography Society (TOS), USA
Trevor Platt Science Foundation (TPSF), India

REFERENCES

- Dr. Grinson George, Director, CMFRI, Kochi, India | grinsongeorge@gmail.com
- Dr. K. Ajith Joseph, Exec. Director, NERCI, Kochi, India | ajith_jk@yahoo.com
- Dr. Annette Samuelsen, Res. Leader, NERSC, Norway | Annette.Samuelsen@nersc.no