P CHANDANA

Contact Information Address:
GIS Engineer, Blue Carbon,
GAIT Global Hyderabad, India.
Gachibowli - Hyderabad, India. – 500032.

Portfolio Website
Mobile: (**+91**) – **6204141756**
E-mail: pchandana2014kv@gmail.com

YEAR	Degree	Institute/School	GPA/%
2023	**M.Sc., Geoinformatics**	**Birla Institute of Technology, BIT(Mesra)**	**9.3**
2020	B.Sc., Chemistry	Shailabala Women's Autonomous College, Cuttack,	7.51
2017	Senior Secondary (CBSE)	Kendriya Vidyalaya, Bhubaneswar, Odisha	79.1%
2015	Secondary (CBSE)	Kendriya Vidyalaya, Chakradharpur, Jharkhand	10%

Experience

GIS Developer/Engineer (Blue Carbon Team) *(May 2023 – Present)*
GAIT GLOBAL, Hyderabad:
Worked in Blue carbon team for mapping mangroves, sea grass and salt marshes for project areas. Broadly speaking the methodology involves data (pre)-processing, preparation and classification, performed in FOSS (Free and Open-Source Software – **QGIS**, **Python** and **Google Earth Engine**)

- **Satellite GAP** filling using **Deep learning** based on **Time Series** of Images data as input.
- **Atmospheric** and **Water Column correction** using various algorithms such as "**lyzenga.**"
- **ML** based classification for accurately mapping marine vegetation ecosystem, using models such as **XGB**, **CCF**, **SVM** and/or **Random Forest**, in **Python.**
- Created a **Google Earth Engine app** that gives out **Mangrove ecosystem** for given **ROI**.

GIS Analyst (Intern) *(Jan' – May 2023)*
Department of Science and Technology, Gov. of India (WIGH), Dehradun:
Worked on Glacial change detection and mapping in the Himachal Region. **ML-algorithms** were employed, and **Python** Programming language was used for implementing ML Algorithms.

- Compared the accuracy of different ML algorithms based on ground truth data.
- Modelled the **DEM** of region using **Drones** imagery and **ASTER** data.
- **Carbon dioxide concentration** mapping of region and **time series** analysis and **forecasting** using **modelling** techniques such as **Facebook prophet model**.

GIS Analyst/Developer (Intern) *(May – July 2022)*
Indian Space Research Organization, Bengaluru:
Published an application in **Google Earth Engine** that automatically extracts **coastline**, for Given ROI, using **Sentinel – 2** Images and performs change detection using **Time Series**. The Images can also be downloaded, or summary statistics can be derived using the App. Worked on **mapping** of large lakes in **Karnataka** region and derive Bathymetry information using **Drone** and **ICESAT - 2** data of mapped lakes.

Energy Research Intern *(Dec' 2019 – Jan' 2020)*
CSIR- Summer Research training program:
I conducted in-depth research on 'Energy Consumption issues,' addressing pertinent **UNSDGs** such as **Affordable** and **Clean Energy (UNSDG 7)** and **Climate Action (UNSDG 13)**. Presented a Seminar in IIRS calling for action in Wind Energy sector and its importance and implementation mapping using **GIS.**

Academics

Master's Dissertation *(Oct' 2022 – May 2023)*
"Seasonal Dynamics of Marine Vegetation and Carbon Sequestration Potential using measure of Particulate Organic Carbon in Palk Strait, Indian Ocean."
Research study was conducted using various tools in **machine learning**, **deep learning**, **data analysis**, and **statistical** domain, all implemented in **Python**, **Julia**, and **R** Programming languages.

- Performed Satellite data gap filling using **Support Vector Machine Regressor** using time series satellite data of the study area (Utilized both Spatial and Temporal information).
- Performed Time series forecasting using **RNN-LSTM model, FbProphet model and ARIMA model.**
- Preprocessing, cleaning, and automation of data analysis of data fetched from server using python scripts, auto conversion from netcdf to Geotiff.
- Application of statistical tests for significance testing (**Welch's T test**)

Bachelor's dissertation *(Jan' 2021 – May 2021)*

"Mass Spectroscopy of textile pollutant Indanthrene red FFB:"

As a part of my undergraduate Thesis, I had chosen the above topic. In this project, using spectroscopy, we find the natural dyes and pollutants in textiles. When pollutants like Indanthrene Red FFB are introduced into blue carbon ecosystems, they can affect the growth, reproduction, and overall health of plants and animals, disrupting the delicate balance of the ecosystem also these pollutants interfere with the photosynthetic process in plants, leading to reduced carbon uptake and potentially weakening the ecosystem's carbon sequestration capacity.

Link to Projects and GitHub

- https://github.com/PC-chandana
- https://ee-mgi10004.projects.earthengine.app/view/dtr

Technical Skills

- Programming languages: **Python, C++, Julia, R, JavaScript, and Embedded C.**
- Databases: **PostgreSQL (PostGIS), and Cloud Based databases.**
- Experience working with **Geoserver.**
- Tools: **Google Earth Engine (Python SDK), ArcMap, ENVI, SNAP, ERDAS IMAGINE, Arduino IDE, MATLAB, and Microsoft Office Tools,**

Seminars & Lectures

1. Lecture on Technology Interventions on Bio-Fuel Production using Municipal and Industrial organic Solid Waste by Dr. P. Shanmugam Chief Scientist CSIR-CLRI Chennai. *(Feb' 2023)*
2. Workshop on hydrological modelling of watershed with geospatial techniques *(Mar' 2022)*

Co-curricular Activities

Hostel Secretary (Hostel-8 BIT, Mesra) *(Jan' – Dec' 2022)*

As a mess secretary I was tasked with handling the mess bill of every student for a period of one year (two semesters). The total amount handled was roughly a figure of **1.87 crores** in **rupees**.

Scholastic Achievements

1) Completed Parambik year of Violin from Kala-Vikas Kendra, Cuttack Odisha.
2) Regional-level debate competition, Kendriya Vidyalaya Sangathan (Rourkela).

References: 1). Dr. Nilanchal Patel - npatel@bitmesra.ac.in
2). Dr. A Pramod Krishna - apkrishna@bitmesra.ac.in
3). Dr. Virendra S Rathore - vsrathore@bitmesra.ac.in