Curriculum Vitae (CV) of Dipen Saha

1. NAME OF PERSON	:	**DIPEN SAHA**
2. DATE OF BIRTH	:	01 October 1987
3. NATIONALITY	:	Bangladeshi
4. Email	:	saha.dpn@gmail.com
5. Mobile	:	+1817-903-9628
6: Linked in profile	:	www.linkedin.com/in/dipensahajony
7. MEMBERSHIP IN PROFESSIONAL SOCIETIES	:	IEB, M-42279 M.ASCE, id#12371126
8. EDUCATION	:	**B.Sc. Engineering (WRE)**, Bangladesh University of Engineering and Technology (BUET), Dhaka, 2014 **M.Sc. Engineering (WRE)**, Bangladesh University of Engineering and Technology (BUET), Dhaka, 2021 **Ph.D in Civil Engineering (Ongoing)**, The University of Texas at Arlington, Texas, USA.
9. TRAINING ACHIEVED	:	2023 (7days) — Training on Structural Design, Analysis & Design with ETABS and Supervision and Quality Control of Construction by Strain Field Geotechnics Ltd, Dhaka. March and April 2023. 2022 (7 Days) — Training on Salinity Modelling by Institute of Water Modelling (IWM), Dhaka, 03-10 August 2022 2022 (12 days) — Training course on "BlueTech: Disrupting the Blue Economy (Virtual Knowledge Exchange) Online course by World Bank Group from 23/05/2022 to 05/06/2022 2022 (12 days) — Training course on "Disrupting Hydroinformatics" by World Bank Group, instructor-led online course from 22/02/2022 to 04/03/2022. 2021 (3 months) — The training package included eight courses (MIKE Powered by DHI software and topics) by DHI from 11/03/2021 to 29/06/2021. 2020-2021 (2.5 months) — Training Course for IWM Engineers on Computational hydraulics, River Hydraulics, Hydraulic Structures, Hydrology, Stochastic Hydrology, and Coastal Engineering by BUET from 14/12/2020 to 25/02/2021 2020 (4 days) — Training on Storm Surge and Wave Modelling by Institute of Water Modelling from 06/01/2020 to 09/01/2020 2019 (5 days) — Training on polder water management by Institute of Water Modelling (IWM) from 22/09/2019 to 26/09/2019 2019 (5 days) — Training on storm surge wave modelling by Institute of Water Modelling (IWM) from 01/04/2019 to 04/04/2019 2018 (7 days) — Training on Storm Surge Modelling using MIKE21 FM conducted by Institute of Water Modelling (IWM), Dhaka from 18-24 September 2018 2018 (7 days) — Training on 2D Morphological Modelling conducted by Institute of Water Modelling (IWM), Dhaka from 20-27 March 2018 2017 (5 days) — Training on Weather Research and Forecasting (WRF) Model conducted by Asian Disaster Preparedness Center (ADPC) Bangkok and Institute of Water Modelling (IWM), Dhaka from 12-16 November 2017 2017 (7 days) — Training on Advanced ArcGIS Desktop 10.1 conducted by Institute of Water Modelling (IWM), Dhaka 9-15 April 2017 2015 (5 days) — Training on Basic ArcGIS conducted by Institute of Water Modelling (IWM), Dhaka from 29 Nov -03 Dec 2015.

	2015 (5 days)	Training on HydroPro software and Bathymetric survey conducted by Institute of Water Modelling (IWM), Dhaka from 25-29 October 2015

10. TRAINING PROVIDED	:	N/A			
11. LANGUAGE & DEGREE OF PROFICIENCY	:	**Language**	**Speaking**	**Reading**	**Writing**
		Bangla	Native	Excellent	Excellent
		English	Good	Good	Good
12. COUNTRIES OF WORK EXPERIENCE	:	Bangladesh, USA			

13. EMPLOYMENT RECORD :

From: January 2024	**To:** To Date
Employer:	The University of Texas at Arlington
Position held:	Graduate Research Assistant (PhD student)
From: November 2021	**To:** December 2023
Employer:	Institute of Water Modelling
Position Held:	Junior Specialist
From: May 2015	**To:** November 2021
Employer:	Institute of Water Modelling
Position Held:	Junior Engineer
From: July 2014	**To:** May 2015
Employer:	Nodi Bangla Construction Ltd.
Position Held:	Assistant Engineer

14. WORK UNDERTAKEN THAT BEST ILLUSTRATES YOUR CAPABILITY TO HANDLE THIS ASSIGNMENT

Name of assignment or project: Hydrological and Morphological Model Study for Integrated Water Resources Management and Development of Kutubdia and Matarbari Island
Year: February 2021 – May 2023
Location(s): Cox's Bazar
Client: Bangladesh Water Development Board (BWDB)
Main Project Features:
Finding hydraulic design parameters for designing for super dyke in Matarbari and Kutubdia, develop a dedicated storm surge model to find the embankment crest level. Moreover, 1D hydrodynamic model for the drainage problem, and 2D morphological model, LitPack model to understand the morphology, dredging volume, and management, afforestation plan and rainfall harvesting plan, design of the proposed interventions, and financial and economic analysis eec.
Position held: Data analyst and **project leader**
Activities performed:

- Prepare a survey plan for model development for the study area
- Data Analysis, Mapping
- Develop 2D storm surge model for the study area.
- Coordination and project management
- Extensive field visit
- Litpack model for littoral drift, trained drainage modeling, and design crest level estimation resources

Name of assignment or project: Detailed Hydrological and Morphological Survey and Study for Matarbari Port Development Project (RHD Component)
Year: February 2021 – February 2022
Location(s): Chittagong
Client: Oriental Consultants Global (OCG)
Main Project Features:
Finding hydraulic design parameters for designing 16 bridges on Matarbari port access road, scour depth calculation for pier, develop a dedicated storm surge model to find the embankment crest level. Moreover, 1D hydrodynamic model and 2D model using MIKE 21C and 3D iRic model will also be developed and used.
Position held: Junior Engineer
Activities performed:

- Prepare a survey plan for model development for the study area.
- Data Analysis, Mapping
- Develop 2D storm surge model for the study area.
- Model result analysis

Name of assignment or project: Long-term monitoring, research, and analysis of Bangladesh Coastal zone
Year: Sep 2020 – Nov 2022
Location(s): Coastal zone of Bangladesh
Client: Bangladesh Water Development Board (BWDB)

Main Project Features:
Devise an improved plan for the polder management of Bangladesh. Flood map generation for different scenarios (i.e., base condition, design condition, and climate change condition). Finding design parameters for the hydraulic structure in the selected polders. Prepare future investment plan.
Position held: Junior Engineer
Activities performed:

- Drainage modelling of polder 59/2.
- Flood map generation for base and design condition of polder 59/2
- Data analysis
- Polder modelling (59/3b, 59/3c, 60 under SERM and total 11 nos. island polder) using the least available data in coarse manner for investment plan preparation.
- Field visit report preparation
- Polder model report writing for Polder 59/2

Name of assignment or project: Surface water hydrology study of probable site selection for construction of nuclear power plant in the southern part of Bangladesh
Year: Dec 2019 – Sep 2020
Location(s): Patuakhali and Barguna
Client: Bangladesh Atomic Energy Commission (BAEC)
Main Project Features:
To select Nuclear Power Plant (NPP) Sites from 5 pre-selected sites by multi-criteria analysis. Storm surge level, availability of flow which is required for functioning NPP, Road connectivity, erosion vulnerability are the key considerations for pairwise multicriteria analysis. Ultimately ranking of sites are done. 2D hydrodynamic model and storm surge model are used for this study.
Position held: Data Analyst and **Project Leader**
Activities performed:

- Data analysis
- Field visit
- Field visit report preparation
- Hydrodynamic model, Storm surge model, and wave model
- Model result analysis
- GIS mapping
- PowerPoint presentation making.
- Report writing and formatting

Name of assignment or project: Feasibility study for the construction of walkway, Eco-Park and other allied infrastructure on the foreshore land of the river Buriganga, Turag, Balu & Sitalakhya (3rd Phase) and waste removal from the riverbed and along the circular waterways of Dhaka City and also set development program for the elements of study.
Year: November 2018 to December 2019
Client: Bangladesh Inland Water Transport Authority
Main project features: Identify the most feasible alignment of walkway, the type of way, the location of ecopark, location of landing facilities and Jetties through extensive field visit, survey and available data around the Dhaka city. Calculation of required dredging volume circular water way
Position (s) held: Data Analyst
Activities performed Analysis of hydrometric data: present and historical, Frequency analysis of water level and discharge data, Field visit, Stake holder consultation, different kinds of maps produced by GIS.

Name of assignment or project: Feasibility Study for Restoration of Bhadra and Salta River along with Adjacent Polder (25, 26, 27/1, 27/2, 28/1 & 29) to Removal of Drainage Congestion of Khulna District Including Environmental and Social Impact Assessment (ESIA)
Year: September 2017 to December 2018
Location(s): Khulna, Bangladesh
Client: Bangladesh Water Development Board (BWDB)
Main project features: Devise a drainage improvement plan for solution of long-standing drainage congestion in the Dumuria Upazilla under the Khulna district by restoring the Bhadra, Hamkura and Salta rivers in an integrated manner considering technical, socio-economic, and environmental aspects
Position(s) held: Data Analyst
Activities performed: Analysis of hydrometric data: present and historical. Updating and calibration of the hydrodynamic model for the Southwest region. Simulation of different drainage improvement options to assess the effectiveness of these options. Generation of flood maps. Develop and simulate the TRM model and calculate the tidal prism in different rivers to assess the effectiveness of TRM basin. Extensive field visit. Data collection from field. Focus group discussion. Stakeholder consultation etc.

Name of assignment or project: Feasibility Study and Detailed Engineering Design for Long Term Solution of Drainage Problems in the Bhabodah Area (2nd Phase)
Year: Oct 2016 to Apr 2017
Location(s): Jessore and Khulna
Client: Bangladesh Water Development Board (BWDB)
Main project features: Devise a drainage improvement plan of the Bhabodah area under the present scenario of water logging and siltation in the river systems and assess the effectiveness of the plan for implementation
Position(s) held: Data analyst

Activities performed: Collection of hydrological data and analysis. Statistical analysis of hydrological events. Field visit, Field visit, report preparation, Map preparation. Extensive field visit. Data collection from field. Focus group discussion. Stake holder consultation etc.

Name of assignment or project: Hydrological and Morphological Study for the Installation of 33 KV Submarine Cable from Chittagong to Sandwip under Power Distribution System Development Project, Chittagong Zone
Year: Mar 2015- Mar 2016
Location(s): Sandwip, Chittagong
Client: Bangladesh Power Development Board (BPDB)
Main project features: Identify the most feasible alignment of the Submarine power cable to connect Sandwip island with national power grid by satellite image analysis and water Modelling technique.
Position(s) held: Data Aanalyst
Activities performed: Collection and analysis of primary and secondary data. Analysis of satellite images for different years to find out the bank line stability of Sandwip channel. Moreover, analysis of bathymetric data to identify the riverbed stability and erosion deposition pattern of the channel. Assist the modelling team for preliminary model setup; report writing, field visits.

Name of assignment or project: Feasibility Study for Improvement and Restoration of Navigability for Buriswar-Payra, Old Brahmaputra, Dharla, Dudhkumar, Punarbhaba, Tulai and Showa River
Year: January 2017 to May 2017
Client: Bangladesh Inland Water Transport Authority (BIWTA)
Main project features: Develop the deteriorating navigability of inland waterways by dredging for smooth and safe plying of cargo and passenger vessels.
Location: Dinajpur, Kurigram, Nilphamari, Mymensing, Jamalpur
Position(s) held: Data Analyst
Activities performed: Dredging volume calculation of Punarbhaba, Tulai and Showa River, Field visit to assess the condition of river and stakeholder consultation, Data analysis for each river, prepare maps using ArcGIS. Field visit and data collection, field visit report writing.

Name of assignment or project: Survey for BIWTA: Morphological Study, Design & Supervision and EIA/SIA of the Twelve Navigation Routes
Year: October 2015 – December 2020
Location(s): Bangladesh
Client: Bangladesh Inland Water Transport Authority (BIWTA)
Main Project Features:
To develop navigability of 12 (twelve) navigation routes by dredging for ensuring smooth and safe movement of watercrafts (both cargo and passenger carrying vessels) the main objectives are to carry out morphological analysis along all respective routes, supervise the dredging activities and perform the environmental and social impact assessment
Position held: Junior Engineer
Activities performed:

- Estimate dredged volume for different navigational route of BIWTA
- Extensive field visit to check navigability and fix dredging alignment
- Contribution in dredging report writing.

Name of assignment or project: Detailed Technical Feasibility Study for Integrated Development of Jahizzer Char
Year: June 2015 to December 2015
Location (s): Jahizzer Char
Client: Military Institute of Science and Technology (MIST)
Main project features: to study morphological processes around the char and surrounding area in an integrated way using data, satellite images and mathematical modeling technique to find the erosion vulnerable area of the char, rate, and extent of erosion, assess the effectiveness planning options for erosion mitigation measures, design of erosion protection measures for erosion vulnerable area.
Position(s) held: Data Analyst
Activities performed: Bank shifting migration analysis, Field visit, Bathymetric data collection.

Name of assignment or project: Coastal Embankment Improvement Project (CEIP-1)
Year: May 2015- Jan 2018
Location(s): Southwest region of Bangladesh
Client: Bangladesh Water Development Board (BWDB)
Main project features: Carry out the modelling study for hydrodynamic and morphological parameters for improvement of the coastal embankment system and assess the effect of climate change and sea level rise on the safety of the embankment
Position(s) held: Data Analyst
Activities performed: Develop Rainfall-runoff and Hydrodynamic model for Polder 23, Flood Map generation for different scenarios, Map producing, Field visit in Polder-14,15, collection of hydraulic structure data. Focus group discussion etc.

Leadership Skill:

I worked as project leader (PL) on the following projects:

- Hydrological and Morphological Model Study for Integrated Water Resources Management and Development of Kutubdia and Matarbari Island.
- Surface water hydrology study of probable site selection for construction of nuclear power plant in the southern part of Bangladesh.

Apart from that, while working on a project, I trained Junior Engineers, build up their technical skills like data analysis, quality control of data, and statistical Analysis of data, and develop the basics of Mathematical modeling techniques.

15. PUBLICATION (Citation nos. 02)

- **Saha, D.**, Khan, M.S., Islam, M.J., Mahamud, U., Alam, R., and Khan, Z.H. (2023), "Crest Level Fixation Considering Climate Change Impact Using State-Of-The-Art Mathematical Modeling: Matarbari Island", *6th International Hybrid Conference on Water Resources and Wetlands,* 13-17 September, Tulcea, Romania.
- Islam, M.J., **Saha, D**., Mahamud, U., Alam, R., and Khan, Z.H. (2023), "Mitigating Coastal Polder Drainage congestion in Changing Climate by 1D hydrodynamic Model", *9th International Conference on Water and flood Management,* 14-16 October, Dhaka, Bangladesh.
- **Saha, D.,** Khan, M.S., Rahman, M.A., Ahmed, R., Nahiduzzaman, S., and Islam, M.S. (2023), "Assessment of Drainage Performance of Selected Polders in Times of Climate Change Using Mathematical Modelling", *International Perspective on Water Resources and the Environment (IPWE)*, Dhaka, Bangladesh and Reston, VA, USA. January 4-6, 2023.
- **Saha, D.** and Rahman, M. A. (2022), "Erosion Accretion Assessment of Kuakata Beach Using Satellite Imageries and Bathymetry Data Adopting RS-GIS Technique", *World Journal of Engineering Research and Technology (WJERT)*, ISSN: 2454-695X, Volume 8, Issue 11, PP 09-21.
- **Saha, D.** and Rahman, M. A. (2022), "Simulation of Longshore Sediment Transport and Coastline Changing Along Kuakata Beach by Mathematical Modeling", *IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE),* e-ISSN: 2278-1684, p-ISSN: 2320-334X, Volume 19, Issue 3 Ser. I (May. – June. 2022), PP 15-31.
- Abir, A.A., **Saha, D.,** and Jahan, N. (2015); "Riverbank Migration Assessment of Padma River Using Landsat Satellite Image", *International Conference on Recent Innovation in Civil Engineering for Sustainable Development (IICSD-2015),* 11-13 December, WRE 006, DUET, Gazipur.

16. Works Undertaken Which Best Illustrates Capacity to Handle the Tasks Assigned

My total work experience is more than ten years in hydrological and hydro-meteorological data analysis, Mathematical model development, and detail analysis for different projects using modern Software. I acquired experience in the presentation of project findings to clients and stakeholders. I also acquired experience in proposal and report writing.

17. Computer Skill:

a. **Operating System**: Windows 11, Windows 10, Windows 7, Windows XP, and Linux
b. **Computer Program Language:** Python
c. **Office Package**: Microsoft Office 365 (Word, Excel, PowerPoint, Access)
d. **Internet**: Browsing and E-mail
e. **Structural Engineering Related Software**: ETABS, GRASP
f. **Engineering Drawing and Drafting Software:** Auto CAD 2021 (Auto desk)
g. **Modelling Software**: MIKE11, MIKE 21 FM, Littoral Process FM, NAM, MIKE 21 SW, Flow 3D Hydro, HECRAS
h. **GIS & Remote sensing:** ArcGIS Pro
i. **Data acquisition & Processing:** SWDTM, WinRiver II, OziExplorer
j. **Statistics:** HYMOS, MIKE EVA

CERTIFICATION

I, the undersigned, hereby certify that the information provided in this curriculum vitae is true, complete, and accurate to the best of my knowledge and belief. All statements regarding my qualifications, employment history, and professional experience are correct and verifiable. I understand that any misrepresentation or omission of facts may affect the evaluation or use of this document.

Signature: 

Full Name: Dipen Saha

Date: 10/05/2025