Md. Mynul Hossain Chowdhury

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Research Interest

Transportation Engineering, Urban Mobility, Intelligent Transport System, Traffic Simulation, Urban Land Use & Transportation Integration, Geographic Information System (GIS), Environmental Sustainability.

Education

Jan, 2018 – Feb, 2023

Bachelor of Urban and Regional Planning
Khulna University of Engineering and Technology
CGPA: **3.19** (scale 4.00)
Thesis Topic: *Calibration of SUMO Microscopic Simulation for Heterogeneous Traffic Condition of a developing economic city.*
Identification of the major areas of traffic congestion & heavy traffic volume. To reduce heavy traffic volume, I have proposed some geometrical design of road which contrast the heavy flow of traffic. Model development in Net edit & import the traffic data for traffic simulation Proposed scenarios have been calibrated & validated according to take concern of future traffic volume & capacity.

Research Experiences

Research Publication: Chowdhury, M.M.H., Chakraborty, T. (2023), "Calibration of SUMO Microscopic Simulation for Heterogeneous Traffic Condition of a developing Economic City", *Case Studies on Transport Policy***.** (Under Review)

Undergraduate Project: *Changing travel pattern dynamics of the passenger's travel behavior during the COVID-19 outbreak.*
Project scheduled: 3rd year 2nd term
Responsibilities: COVID-19 had a profound impact on mobility & the pattern of mode choice.
(1) Identification of the problem & critical parameters of the mode changing behavior; (2) Prepare Questionnaire according to the analysis of mode shifting behavior of mobility; (3) Create a methodological framework; (4) Statistical test (McNamar Test, Man U Whitney test, Wilcoxon T test, Chi Square test, KMO and Bartlett's Test, Spearman Correlation, Hypothesis test); (5) GIS for Mapping

Undergraduate Project: *Assessment of Regional Diversity: A Study on Bangladesh*.
Project Scheduled: 4th year 1st term
Responsibilities: (1) Identification of the parameter of Socio-demographic, Structural & Ecological disparities; (2) Sentinel 2 - Multispectral Image & Landsat 8 - Surface Reflectance satellite images type has been used to collect data for calculating LST, NDVI, NDWI, NDMI, LULC purposes; (3) Google earth engine has been used in primary stage of assessment (Image collection & Processing), training the maximum point classified; (4) Data processing & Mapping (Contour map, LULC map, Road map, Structural map, Ecological diversity map) has been prepared by ArcGIS 10.5.

Undergraduate Project: *Participatory Rural Appraisal of Maheshwarpara, Digholia Union, Khulna*.
Project Scheduled: 4th year 2nd term
Responsibilities: (1) Identification of the problem through participatory approaches; (2) PRA tools (Social map, Resource map, Mobility Map, transect walk, Ven diagram, Problem tree, SWOT, Cause effect diagram, Mobility map, Seasonal diagram) has been used to identify the problems; (3) Provide feasible solution that can easily access by the inhabitants.

Research work: ***Analyzing Urban Expansion in an automated cloud computational platform: A case study of Chittagong Metropolitan Area***.

Affiliation with Thesis Supervisor: Tanmoy Chakraborty, Assistant Professor, URP, KUET.

Responsibilities: (1) Data has been collected from google earth engine by using satellite image of Landsat 5,7 & 8; (2) Image collection through preprocessing of GEE; (3) Change detection has been calculated to predominately find out the LULC changes over the time (Built up area); (4) Urban expansion calculated from 2000 to 2021; (5) Visual mapping used by using ArcGIS & further calculative analysis.

(Please do verify at: **https://drive.google.com/drive/folders/1jECV8uAR0Kx91tqzrewbN_Xa49L2hWWW?usp=sharing**)

Professional Experiences

Project Internship, *Amigos Construction* Aug,2022- Sep,2022

Project Involved on:

(1) Feasibility study of the Dupchanchia Upazilas Road Construction

(2) Digital Topographic Survey at Uposhohor (Road 21), Bogra.

Responsibilities: Data Collection, Data Management, Report writing & Documentation, GIS Analysis.

Community Facilitator, GIZ Project Apr,2023-May,2023

Project Involved on:

(1) Public hearing & Recurring of the data for preparing Master Plan at Satkhira Pourashova.

Responsibilities: To facilitate incoming responders, curate their opinion and make them feel comfortable on sharing their insights for Climate Resilient Inclusive Smart Cities (CRISC) Project.

Technical Skills

OS	**:**	Windows
Programming language	**:**	Python, Machine Learning
Statistical Analysis	**:**	Google Spreadsheet, IBM SPSS, Tableau
Traffic Simulation	**:**	SUMO
Report Writing & Presentation	**:**	Word, LaTeX, PowerPoint
Mapping & Drawing	**:**	ArcGIS, AutoCAD, Adobe Illustrator

Leadership Experiences

General Secretary, *KUET Career Club*	2022-2023
Presidium Member, *Chittagong Association of KUET*	2022-2023
Youth Ambassador, *Youth School for Social Entrepreneurship*	2019-2020
Logistic Officer, *Hult Price at KUET*	2019-2020
College Prefect, *Chittagong Cantonment Public College*	2016-2017
Assistant Co-Ordinator, *Bangabandhu Sheikh Mujibur Rahman Hall, KUET*	*2021-2023*

Reference

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