Daud Nabi Hridoy

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Education

Virginia Tech
MS in Civil Engineering *August 2023–Present*
CGPA: 3.90/4.0
Howard University
Graduate student in Civil Engineering (Transferred to VTech) *January 2023–July 2023*
CGPA: 4.0/4.0
Islamic University of Technology
B.Sc. in Civil Engineering *January 2015–November 2018*
CGPA: 3.85/4.0
Class Position: 2nd out of 45

Research Experience

Undergraduate Thesis: Empirical Evaluation of Pedestrian Behaviour at Bends and Junctions.

Supervisor: Dr. Moinul Hossain

Description: The aim of this research was to assess the impact of turning angle on microscopic and macroscopic pedestrian characteristics. In this study the effect of turning angle on the average speed and flow of pedestrians (i.e., solo and collectively) was also compared at various speeds (i.e., slow walking, fast pace and slow running).

Publications

Journal

o Ahsan, A., Ahmad, N. S., Riahi, A., Uddin, M. A., Hridoy, D. N., Shafiquzzaman, M., Imteaz, M., Idrus, S., Al-Ansari, N., Atiq, M., & Ng, A. (2023). *"Modeling of a new triangular shape solar distillation system integrated with solar PV panel and DC water heater"*. Case Studies in Thermal Engineering, 44, 102843. (ScienceDirect)

Conference Presentations

o Hridoy, D.N., Bhuiyan, M. R. H., Ahmed, N., Raihan, M. A., & Hossain, M. (2023). *"An Empirical Evaluation of Speed-Density Relationship for Pedestrians at Bends and Junctions"*. International Conference on Transportation and Development 2023 (pp. 176-186). (ASCE)

Conference Abstract/Presentation

o Pandey, V., Hridoy, D.N., Park, H., Hasnine, M.S., (2024)."*Express Lane Route Choice under Real-time Information: A Joint Revealed and Stated-Preference Study*". International Conference on Transportation and Development 2024

o Hridoy, D.N., Pandey, V., Park, H., Hasnine, M.S., (2024)."*Impact of real-time information on travelers' mode choice behavior*". International Conference on Transportation and Development 2024

o Tasnia, R., Hridoy, D.N., Khondhaker A.M., Sadri, A.M., Hasnine, M.S., (2023)."*An Innovative Method of Using Social Media Data to Develop Policy Sensitive Model*". Presented at the 2023 INFORMS Annual Meeting, Phoenix, Arizona, October 15-18, 2023

o Shafian, S.A., Zhenqi, J., Shaheduzzaman, M., Nazrul, F.B., Hridoy, D.N., Hossain.,M.(2022) "*Analysis of the Load Displacement Behavior of Bored Pile using Different Soil Constitutive Models for Chittagong Soil*". International Conference on Geotechnical Research and Engineering.

Grants/Project Funds

Project Name: Industrial Wastewater Treatment by Electrocoagulation and Filtration Techniques
Source: Islamic University of Technology
Role: Co-Researcher
Grant: USD 3000

Work Experience

Virginia Tech
Graduate Research Assistant   *August 2023–present*
Department of Civil and Environmental Engineering

Howard University
Graduate Research Assistant   *January 2023–July 2023*
Department of Civil and Environmental Engineering

Islamic University of Technology
Lecturer   *January 2019–December 2022*
Department of Civil and Environmental Engineering

Responsibility:

o Conducting theory and lab sessions
o **Course Taught:** Numerical Analysis and Computer Programming, Computer Programming and Application Lab, Transportation Engineering Sessionals, GIS Application in Civil Engineering, Fluid Mechanics Lab, Details of Construction
o Surveying lab incharge
o Carrying out commercial lab testing

DevConsultants Limited
Junior Engineer   *November 2018–January 2019*
Project: "*Study on Road Safety and Hazards Including Design of Countermeasures at Intersections on National and Regional Highways of Bangladesh*"
Responsibility:

o Preparation of detailed condition diagrams of road intersections using AutoCAD

o Assisting in detailed road safety assessment and designing safe road intersections

o Data analysis and intersection ranking using ANP

Technical Strengths

o **Programming Language:** Python (libs: Numpy, Pandas, Matplotlib, Scikit-learn, TensorFlow, Keras, PyTorch), MATLAB, R.

o **Statistics:** SPSS.

o **Database Management:** MySQL.

o **Word Processing and Presentation:** MS Word, MS PowerPoint, LaTeX.

o **Spreadsheet and Project Scheduling:** MS Excel, MS Project.

o **Engineering Software:** ETABS, Arc GIS (ARC Map), QGIS, Traffic Data Extractor, Cube, PTV Vissim, SUMO.

o **Drafting and BIM:** AutoCAD, Google Sketchup, Autodesk REVIT.

Membership of Professional Organization

o Associate Member, Institute of Engineers, Bangladesh (IEB)

o Student Member, Institute of Transportation Engineers

o Student Member, American Society of Civil Engineers

Academic Training Attended

o Completed "Basic Responsible Conduct of Research Course", CITI Program, 2023

o "Quality Education through Effective Teaching" conducted by the office of Accreditation and Quality Assurance (AQA), Islamic University of Technology, 2022.

o "Foundation training program on outcome based education(OBE)" conducted by the office of Accreditation and Quality Assurance (AQA), Islamic University of Technology, 2021.

o "Teaching and Learning Strategies for Outcome Based Education(OBE)" conducted by the office of Accreditation and Quality Assurance (AQA), Islamic University of Technology, 2021.

Short Courses/Seminars/Workshops

o Participated in a short course on "Waste-to-Energy Technologies for Sustainable Municipal Solid Waste Management" organized by Department of Civil & Environmental Engineering (CEE), IUT, 2022.

o Attended a seminar on "Converting Thesis Literature Review into a Review Paper" organised by Department of REASP, IUT, 2021.

o Participated in PTV Academic Exercise for Students Online Course "PTV Vissim- Microscopic Modelling Basics" conducted by PTV Gorup, 2020.

o Participated in a day long workshop on "Scientific Paper Writing for High Impact Journal" organised by Department of REASP, IUT, 2020.

o Attended the short course on "Constitutive Modelling of Soil and Tunnel Design", held at Islamic University of Technology (IUT), 2019.