

# Md Kaiser Hamid Munna

## Ph.D. Applicant Fall 24

*Final year undergrad student of*

*Bangladesh University of Engineering & Technology(BUET), Dhaka, Bangladesh*

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## EDUCATION

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**Bangladesh University of Engineering & Technology (BUET)**

**April 2019- Present**

*Final year B.Sc. Student in Civil Engineering (CGPA : 3.53 out of 4.00 up to 7th semester)*

*Major : Transportation Engineering*

## PUBLICATION

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**Kaiser Hamid<sup>1</sup>**, Md Sayem Noor<sup>2</sup>, [Annesha Enam](#), PhD<sup>3</sup>, [Samiul Hasan](#), PhD<sup>4</sup>

*“Assessing the Potential of Google Location History (GLH) data for Travel Behavior Research in the Context of Developing Country ”, [Proceedings of 17th International Conference on Travel Behavior Research 2024, July 24-28](#)*

**[SUBMITTED]**

## RESEARCH EXPERIENCE

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I am a Research Assistant working with [Dr. Annesha Enam](#). Our research aims to assess the potential of "Google Location History" as a source of “Travel data” by matching it with ground truth data from users. To achieve this, I have utilized Python for data analysis and the development of a deep learning model. Additionally, I have created an [Android app](#) using Flutter for the purpose of collecting user data.

- **Duration:** January 2023 – Present
- **Research Focus:** Investigating the utility of 'Google Location History' as a potential source of “Travel Data”.
- **Tools & Methodologies:** Python, Flutter, MongoDB, Deep learning.

## RESEARCH INTEREST

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Intelligent Transport System(ITS), Data Science, Computer Vision, Passive Data, Travel Behavior.

## SKILLS

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- **Programming:** C, C++, Python
- **Design Tools:** AutoCAD, ETABS, SAP, VISSIM
- **Frameworks & Libraries:** Flutter, NodeJs, Pandas, NumPy, Matplotlib, Scikit-Learn, Keras, TensorFlow, yoloV5
- **Software Tools:** MS WORD, EXCEL, PowerPoint
- **Database management:** MongoDB
- **Web Development:** HTML

## **P R O J E C T**

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### **Drawing SFD, BMD of a simply supported beam using MATLAB([Github](#))**

In this project, I utilized MATLAB to generate Shear Force Diagrams (SFD) and Bending Moment Diagrams (BMD) for a simply supported beam under various types of loads, including distributed loads and concentrated moments.

### **Estimation of Septic Tank using MATLAB GUI ([Github](#))**

This project involves the development of a calculator-like tool with a MATLAB Graphical User Interface (GUI). It takes input variables from a plan view of a septic tank and performs calculations, including excavation volume, RCC work, plaster and other related parameters.

### **Invoice making for a shop using C++ ([Github](#))**

This code is designed to update a real-time inventory and produce invoices for customers, including product identification. It is implemented in C++.

### **Reaction force solver of a simply supported beam using C++ ([Github](#))**

This project focuses on calculating the reaction forces of a simply supported beam subjected to distributed loads and concentrated loads. The calculations are implemented in C++.

### **Trip Tracker apps using flutter ([Youtube](#))**

This app tracks the start and end locations of users' trips, along with corresponding timestamps, and stores this information in MongoDB. It is implemented using Flutter.

### **Vehicle detection using deep learning for Dhaka, Bangladesh ([Youtube](#))**

In this project, I utilized YOLOv5 and custom data to detect vehicles on roadways in Dhaka, Bangladesh. The aim is to identify various modes of transportation.

### **Simulation of Gulshan-1 intersection using VISSIM ([Youtube](#))**

Using VISSIM, I conducted a simulation of the current traffic scenario at the Gulshan-1 intersection. The simulation provides insights into the queue lengths at each leg of the intersection.

## **T H E S I S**

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I am currently working on my undergraduate thesis under the guidance of [Dr. Moazzem Hossain](#). The focus of my thesis revolves around the prediction of queue lengths at a busy intersection. To achieve this, I am employing the YOLOv5 model and custom data for the detection of vehicles in Dhaka. The methodology involves capturing data at various time intervals to calculate the queue lengths. Subsequently, I will apply deep learning techniques to create a predictive model for estimating queue lengths.

## **A C H I E V E M E N T S**

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[2016] Vocational Board Scholarship by Govt. Bangladesh for outstanding performance in SSC

[2013] Vocational Board Scholarship by Govt. Bangladesh for outstanding performance in JSC

## **E X T R A C U R R I C U L U M**

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- Worked as an active member of “BADHON, BUET ZONE”.
- Actively worked as an organizer of “BUET CE FEST 2023”