Ajhay Sathiyanarayanan

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An MASc graduate, actively looking out for jobs in transportation field. Passionate about engineering and science, with strong technical, business, and interpersonal skills for working in a team and successfully completing a project. I currently reside in Toronto, Ontario and I am willing to join and relocate immediately.

Education

- **Concordia University, Canada** — **Concordia**
  MASc Transportation Engineering, — *2016–2018*
- **SASTRA University, India** — **SASTRA**
  B.Tech Civil Engineering, — *2011–2015*

Skill Set

- **Transportation Software:** VISSIM, Synchro, EMME (Basics), AIMSUN, Microstation, MX Road.
- **Civil Engineering Software:** 2D and 3D CAD, REVIT Architecture, Arc GIS.
- **Programming Languages:** Proficient in: C, C++, TeX. Also basic ability with: Python and R.
- **Other tools:** MS Office, Visual Basic, SQL, Stata, Vensim, Flash.

Research Projects

- **Masters Thesis: Exploring the Effect of Weather on Nighttime Road Collisions**

  This thesis explores weather at the time of road collisions during nighttime for accidents observed at Victoria Ville in Quebec. Available data encompassed various characteristics including values of illuminance measured during 2014 for the entire network in one night. Values of various lighting parameters were measured again at different weather conditions and attached to the database. Two analyses were conducted: One with the change in lighting conditions for roads in the region and the other without making any changes to understand the impact of weather on visibility issues leading to collisions. Two methods of representation of collisions and various road segment sizes were tested. The results show that the recommended approach is to consider weather dependent illuminance, luminance and Unified Glare Index values for each individual collision. If the analysis is based on collisions frequency, then 100 meter segments are recommended, if the analysis is based on collisions severity, then 500 meters segments are advisable.

- **Improvement of pre-timed traffic signal operations at selected intersections (VISSIM)**

  This project deals with improving the pre-timed signal operations at selected intersections in Montreal. Minor changes made on 4 intersections resulted in significant differences in both LOS level and delay time. The proposed changes will result in better management of traffic at the intersections.

- **A study on improving pedestrian facilities in congested urban areas in Chennai**

  The objective of this project is to collect pedestrian related data, to check the adequacy of facility based on IRC guidelines, to determine the pedestrian delay and to suggest suitable measures for improving the pedestrian facilities in urban cities. The suggestions has been proposed to the Transportation Department of Chennai, India

- **Four step model analysis for transportation systems**

  Using four step model, data has been analyzed for Mercier area to provide recommendations to improve the quality of the transportation systems.

- **Sustainable Office Infrastructure**

  Using Revit Architecture software, a four storied office building that can accommodate 1200 people has been designed with energy efficient structure. The building is designed in the shape of aero foil to increase the air flow and it is oriented in a way to increase the sun light. Many such energy efficient methods are implemented. Energy analysis is done using REVIT Architecture and Ecotect analysis software and the comparison study with the similar model without any energy efficient techniques show that money and energy can be saved using the sustainable model.

- **Infrastructure modeling and simulation - Electricity**

  Using Vensim software, this project created a simulation model via system dynamics to explore the possible investment options in generation that would maximize the exports, minimize the imports, with an acceptable cost. The results show that process of generation and transmission of electricity suffer from many losses, that if dealt with properly, could maximize the exports and avoid the need of imports.

Experience

- **Unitech Procare Pvt. Ltd. (startup)** **Coimbatore, India**
  Technical Project Coordinator (Civil Engineering) *2015*

  I was responsible for evaluating the projects submitted by the students for funding purpose. I was also given the responsibility to supervise the projects. I was also visiting universities to conduct workshops. I organized and planned events. At the end of my work with the company, my colleagues praised my work ethic.

- **Lancor Constructions** **Chennai, India**
  Design Supervisor *2014*

  I did an internship at the site office. I supervised the design of the multi-storied apartment complex. Duties include, designing using REVIT Architecture software, analyzing the energy efficiency of the building, verifying the diagrams of the building and implementing changes. The value of the project is **$3 million.**

- **AVS Constructions** **Hosur, India**
  Site Supervisor *2013*

  I got training for supervising the site for constructing a tractor factory. The training include material identification, checking the quality, cost estimation and supervising the site. The value of the project is **$1.5 million.**

- **R.K. Constructions** **Theni, India**
  Site Supervisor *2013*

  I did an internship at the site. I supervised the construction of the multi-storied shopping complex. Duties include, material and site supervision. The value of the project is **$800,000.**

Relevant Coursework

- Arc GIS software (Coursera - University of California, Davis).
- Urban Transportation Planning and Design (Concordia University).
- Infrastructure Modelling and Simulation (Concordia University).
- Sustainable Infrastructure Management and Systems (Concordia University).
- Airport and Waterways Engineering (SASTRA University).

- Highway and Railway Engineering (SASTRA University).
- Pavement Engineering (SASTRA University).

Certificates

- Arc GIS - University of California, Davis (Coursera).
- Diploma in Transportation Design - CADD Center, India.
- Professional in Building Design - CADD Center, India.
- Honors Diploma in Computer Application - CSC Center, India.

Publications

- Submitted a conference paper titled, 'Exploring the Effects of weather on Nighttime Road Collisions', for the 7th annual International Conference on sustainable Energy and Environmental Sciences held at Singapore.

Other Activities

- I was a "fresher representative" in my 2nd and 3rd years of university, this required me to guide, look after, and ensure that first years have a good time in their first week, and feel consoled in what for most of them is their first time living away from home. We were responsible for the safety and well-being of the group of first years during the first week.
- I was an editor in a technical magazine called, 'Illuminati', which is being published in our college website. I was one of the founding members of this magazine, which focuses on new technologies and educating about the scopes in particular fields of Civil Engineering. My team was appreciated for the hard work from the Dean of Training and Placement from the SASTRA University.
- I Organized and lectured three sessions on REVIT Architecture at SASTRA University. Nearly 100 students participated and appreciated me for the initiative.
- I was the head of organizing team in national level technical civil symposium, 'Hinges', and was part of the organizing team for National level cultural fest, 'Kuruksastra'.

References

- **MASc. Thesis Supervisor**
  Dr. Luis Amador
  Associate Professor
  Building, Civil and Environmental Engineering
  Concordia University
  luis.amador@concordia.ca

Transportation Engineer

May 2019

Subject: **Transportation Engineer**

Dear Hiring Committee,

I am Ajhay Sathiyanarayanan, an MASc (Transportation Engineering) graduate in Concordia University. I am writing to express my strong interest in applying for the position of **Transportation Engineer/Planner.** I am eligible to apply for a P.Eng.. I currently reside in **Toronto, Ontario. I am willing to relocate anywhere, and I can join immediately.**

As a master's thesis graduate, my research was inclined towards transportation planning and safety. The main goal was to find the impact of weather on road lighting during nighttime collisions. I devised two new methods to statistically prove the impact of weather. I have submitted a paper to be published at a conference in Singapore. I used **Arc GIS** and **Stata** software for my thesis.

During my bachelor's program, I did three internships. I served as a site supervisor and design supervisor during my internships, aiding in the construction of a tractor factory, multi-storeyed shopping and apartment complex. These experiences helped me to improve my engineering skills. The range of the value of the projects is from **$800,000 to $3 million.**

I earned corporate experience by working as a Technical Project Coordinator for Civil engineering division at Unitech Procare Pvt. Ltd. (Startup). I was responsible for evaluating the projects submitted by the students for funding purpose. I was also given the responsibility to supervise the projects. I was also visiting universities to conduct workshops. I organized and planned events. At the end of my work with the company my colleagues praised my work ethic.

I improved my communication skills by portraying ideas through various project seminars and conferences throughout my academic career. The ability to get along well with people, and effectively coordinate in fast-paced environments have contributed in extracting good results in my academic projects.

After careful consideration, I decided to start my career in transportation field. Therefore, I started learning programming languages and other software. Some of the concepts I learned are mentioned in the next page of this pdf. I have immense experience in **C and C++** as I started learning them from my school days. I learned **python** in an online learning platform (Udemy) and I am strong with the basics. I learned **VISSIM, EMME, AIMSUN and Synchro** during my master's degree and I have a good knowledge of these software. In addition to that, I learned **Microstation** and **MXRoad**, which aided me in completing the Diploma in Transportation Design. I am proficient in **Arc GIS** software and I have a certificate for completing course from University of California, Davis (Coursera). I am very much experienced in **REVIT Architecture** for which I have won the first prize in a competition to design a green building conducted by Indian Green Building Council. I believe that I have gained the knowledge required to start my career as a Transportation Engineer.

By working at 30 Forensic Engineering, I can learn to be a member of a team of Transportation engineers at various levels of experience working towards a common goal. By collaborating with the experienced transportation engineers at 30 Forensic Engineering, I can learn and contribute towards achieving any goal, which will have positive impact on the customers and business.

I request you to provide me with an interview opportunity to discuss the contributions I can make to this position. Should you have any questions you can contact me at +1 (438) 820-8070 or at ajhaysiva@gmail.com. Thank you for your time and consideration.

Some of the concepts are:

- Demand Analysis - Trip Generation, Trip Distribution, Modal split and Traffic Assignment.
- Transportation Design – MicroStation, MX Road.
- Transportation safety – Road Collisions, Street lighting, Pedestrian movement, Congestion and Queuing Studies.
- Strategic transit planning and operations studies (conventional or specialized transit)
- Micro-transit and ridesharing planning and operations
- Integration of land use, transportation, and urban design analysis
- Traffic Stream Models – Microscopic, Macroscopic and Mesoscopic models.
- Traffic signal Design – Notations, Cycle time and length, Phase and Interval design Intersections.
- Intelligent Transportation System.
- Highway capacity and Level of Service.
- Road Markings and Parking studies.
- Transportation survey, Traffic measurement procedures and Land use Models.
- Geographical Information System and Geographical Positioning system.
- Pavement Design – Flexible and Rigid Pavements, Highway Alignment, Traffic Loading and Rehabilitation.
- Highways, Waterways, Airways and Waterways Engineering concepts.

Linkedin - https://www.linkedin.com/in/ajhaysathya/

Sincerely,

Ajhay Sathiyanarayanan