



Vaishnavi Anand Koli
Civil Engineering
Indian Institute of Technology, Bombay
Specialization: Transportation Systems Engineering

193040015
M.Tech.
Gender: Female
DOB: 13-08-1997

Examination	University	Institute	Year	CPI / %
Post Graduation	IIT Bombay	IIT Bombay	2021	9.46
Graduation	Shivaji University	Walchand College of Engineering, Sangli	2019	9.13
Graduation Specialization: Civil Engineering				
Intermediate	Maharashtra State Board	Sangmeshwar College, Solapur	2015	88.92%
Matriculation	Maharashtra State Board	late. V. M. Mehta Highschool	2013	97.45%

Scholastic Achievements

- Scored **98.09** percentile out of **1.45 Lakh** students in Graduate Aptitude Test in Engineering '19 (**GATE**) (**CE**)
- Awarded **National Talent Search Scholarship** (awarded to **top 1000 students** all over India) by **NCERT** in 2011

Academic Projects and Seminar

Master's Dissertation: Evaluating Rutting Performance of Polymer Modified Bitumen (PMB) Using Multiple Stress Creep Recovery(MSCR) Test.

Guide: Prof. Dr. Dharamveer Singh

July '20 - Present

Objective: To suggest possible **refinement** in **IS 15462-2019** specifications for **rutting performance of PMB**.

- Investigating the **issues in MSCR testing conditions** prescribed in **IS 15462-2019** by evaluating the effect of different stress levels, creep and recovery time, and number of cycles on the response of polymer modified binders.
- Analyzing appropriate parameter** among alternative parameters (elastic recovery, phase angle and percent recovery) and **simplifying specifications** by **removing unnecessary tests** which may result in better characterization of PMB and **reduce the technical burden** on the bitumen industry.

Master's Seminar: Review of Specifications for Polymer Modified Bitumen (PMB) in India

Guide: Prof. Dr. Dharamveer Singh

Jan '20 – June '20

- Studied the different types of Polymers and rheological characteristics of Polymer Modified Bitumen.
- Reviewed **three Indian standards, Overseas Standards codes & their Specifications** for performance of PMB.

Bachelor's Dissertation: Financial Appraisal of Construction Project (Proposed Science Center at Sangli, using Public Private Partnership (PPP) model)

Guide: Prof. Dr. V. D. Salkar

Aug '18 – May '19

- Developed a Layout plan and floor plan of Science Center, estimated the total project cost, and predicted revenues.
- Evaluated the **financial viability** by performing economic appraisal which involves **cost-benefit analysis, sensitivity analysis, impact assessment** and **risk management** of proposed science center project

Term Paper and Course Projects

Term Paper: Alignment Indices based on Consistency Evaluation

Course Instructor: Prof. Avijit Maji

June '20

- Studied 'Alignment Indices' as a quantitative measure of evaluation of the consistency of Highway design used by Highway Engineers to ensure the safe movement of vehicles.

Topic: Study of Human Factors in Driving Training Module

Course Instructor: Prof. Nagendra Velaga

Feb '20 – June '20

- Analyzed** main reasons of vehicle drivers' involvement in **traffic crashes** by reviewing the literature
- Proposed suitable **methodology** to study the **effect of emotions and stress** caused due to dynamic traffic situations on the driving maneuvers which then lead to unsafe and aggressive driving behaviour

Topic: Evaluation of Performance of Urban Roadway

Course Instructor: Prof. P. Vedagiri

Feb '20

- **Estimated the capacity and level of service (LOS)** of the given stretch - Gandhinagar junction to Kanjurmarg with various experimental tools.
- Assessed different performance parameters like travel time and delay for a given congested corridor with VISSIM software's help.

Field Training

Builder: Raj Mahesh Thobade Builders and Developers

Dec '17

- Assisted the on-site supervisor and site engineer in the execution of the foundation work of the 5 storey building.
- Estimated materials approximately required for RCC construction on site

Position of Responsibility

Leadership	Spearheaded and mentored the team of coordinators in designing, and executing the event 'White Collar' in SAMANVAY 2K19 at WCE, Sangli as Chief Coordinator and board member of Civil Engineering Student Association (CESA)	April '19
Initiative	Successfully designed, organized and executed the event SAMANVAY 2K18, by coordinating with a team of 8 other organizers at WCE, Sangli	April '18
Mentorship	Volunteered for helping and encouraging UG students from TEQIP-III institutions in Bihar to prepare and appear for the GATE examination	August '20 - Present
Teaching Assistant	<u>Transportation Engineering Lab</u> : Worked in a team of 19 TAs to help in 100+ students in performing several lab and field experiments <u>Advanced Pavement Engineering Lab</u> : Demonstrated online lab experiments of binder, bituminous mix and pavement conditions to the masters students. <u>Transportation System Studio Lab</u> : Guiding masters students for performing experimental analysis of field data by demonstrating various traffic and planning related software.	Aug '19 - Present

Key Courses

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| <ul style="list-style-type: none"> • Pavement Systems Engineering • Urban Transportation Systems Planning • Traffic Engineering • Computing in Civil Engineering | <ul style="list-style-type: none"> • Geometric Design and analysis of High-speed Roadways • Behavioral Travel Modelling • Traffic Management and Design • Transportation Project Evaluation & Decision Making |
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Certifications

- Autodesk Certified **Civil 3D**: Familiar with design of horizontal and vertical alignment of the roads, corridor generation and cut fill estimation etc.
- Successfully completed the course of **Data Analysis using Microsoft Excel** with advanced features including Pivot tables with categorical as well as numerical data.
- **Statistics**: Became competent in descriptive and inferential statistics and evaluated statistical problems using **R**

Software Skills

- Analysis and Design Software (Transportation-related): IITPAVE, Civil 3D, NLogit, PTV-VISSIM.
- Familiar Coding Languages and Script: Python, C, R.
- Other software: MATLAB, MS Office, AutoCAD.

Extra-Curricular Activities

- **1st runner up** in **ARQUITECTURA**: A Building Planning Event in Techfest 'AAKAR 2K16', WCE Sangli
- Partnered with 15+ coordinators for conducting **user preference surveys** at various railway stations for **MUMBAI AHMEDABAD HIGH-SPEED RAIL LINK** project to understand **commuter's perception & willingness to pay**
- Actively Participated in **Social Campaign of 'Save Water, Save Life'** on World's Water Day at High school.

Hobbies and Interests

learning a new skill, travelling for exploring new places and practicing yoga