Resmi M | **193040021**
Civil Engineering | **M.Tech.**
Indian Institute of Technology, Bombay | **Gender: Female**
Specialization: Geotechnical Engineering | **DOB: 19-04-1996**

Examination	University	Institute	Year	CPI / %
Post Graduation	IIT Bombay	IIT Bombay	2021	9.29
Graduation	University of Kerala	College of Engineering Trivandrum	2018	8.84
Graduation Specialization: Civil Engineering				
Intermediate	Board of Higher Secondary Examination	Holy Angels' Convent HSS	2014	98.00%
Matriculation	Kerala Board of Public Examinations	Holy Angels' Convent HSS	2012	90.00%

SCHOLASTIC ACHIEVEMENTS

- Scored **99.17** percentile in the **Graduate Aptitude Test in Engineering (2019),** out of **1,45,064** students

KEY PROJECTS AND SEMINARS

M.Tech Dissertation | *Guide: Prof. Satyanarayana Murty Dasaka, IIT Bombay* *[July '20-ongoing]*

Understanding the Behaviour of an Anchored Rigid Retaining Wall by Back Analysis

- **Analyse** the **forces** acting on a cantilever retaining wall with counterforts and **obtain** the **movement** of the wall required to attain the active earth pressure condition, under varying site conditions and soil types.
- **Analyse** retaining wall with **anchors** and find the required **spacing** between anchors
- **Numerically model** the load-deformation behaviour of anchors using **PLAXIS**.
- Understand the **short-term** and **long-term** behaviour of retaining walls.
- Identify the causes of **failure** of retaining wall, and **develop guidelines** on preventing such failures in future.

M.Tech Credit Seminar | *Guide: Prof. Satyanarayana Murty Dasaka, IIT Bombay* *[Jan '20 – June '20]*

Application of Geosynthetics in Pavements on Expansive Soils

- Reviewed literature on the **field and laboratory** studies on expansive soils and studied the **effectiveness** and **suitability** of using **geosynthetics** in **remediating** the problems related to pavements on expansive soils.
- Understood the cause and types of **pavement distresses** on expansive subgrades
- Understood the **mechanisms** of geosynthetic reinforcement and assessed the **future scope** of works required

B.Tech Project | *Guide: Prof. Ajitha A. R., College of Engineering Trivandrum* *[2018]*

Design and Analysis of Reinforced Earth Retaining Wall

- **Designed** and **compared** the **cost** of construction of a Reinforced Earth retaining wall (**RE wall**) and a Reinforced Cement Concrete (**RCC**) retaining wall for same soil conditions and height
- About **47% cost savings** in using an RE wall in the place of an RCC wall

B.Tech Seminar | *Guide: Prof. Ajitha A. R., College of Engineering Trivandrum* *[2017]*

Sustainable Design Criteria for Earthquake Region

- Reviewed literature on approaches that enable **post-event functionality** in **earthquake**-prone regions, resulting in more **sustainable** structural systems.

Survey Camp | As a part of the Undergraduate curriculum *[2017]*

- **Conducted survey** of a portion of the College of Engineering Trivandrum campus, using **Total Station**.
- Developed a **topographic map** with **contour** lines using **LisCAD and AutoCAD**.

Course Project | *Guide: Prof. Ashish Juneja, IIT Bombay* *[November 2019]*

Finite Element Analysis Using PLAXIS 2D | *(Course: Geotechnical Constitutive Modelling)*

- **Modelled** a **raft foundation** to a circular water tank resting on a soft clay deposit using **PLAXIS 2D** to analyse the **consolidation** behaviour before and after cement **stabilisation** of soft clay.
- The **analysis** showed that the **factor of safety** increased by around **4.7** times, the **time** required for **95 %** consolidation has **reduced** and the **settlement** was brought **below** the allowable **limit** post stabilisation.

Course Seminar | *Guide:* . B.V.S. Viswanadham, *IIT Bombay* *[May 2020]*

Centrifuge Study on the Effect of Pile Bending Stiffness on the Slope Stabilised by Piles

(Course: Geotechnical Centrifuge Modelling)

- Reviewed literature on Centrifuge Modelling of **pile reinforced slopes**

SITE VISITS AND INTERNSHIPS

Site visits:

- Thane West, Mumbai, on *3/3/2020* to witness a **pile load testing** carried out as part of the **Metro Line-5** project
- Industrial visit to **Poabs M-sand** manufacturing unit in *October 2015*, organised by ICI CET Student's Chapter
- Visit to **Aruvikkara dam and water treatment plant** in *October 2015*, organised by ICI CET Student's Chapter

Internship training: | Under the **Kerala Public Works Department** (Roads and Bridges Section)

- During the period of 24th to 30th of May, 2017, study visits were conducted to **BM & BC plant** at Karakkamandapam, Chellengi **Bridge site** and Peyad **Road improvement project**.

CO-CURRICULAR ACTIVITIES

- Attended **international** webinar on **Recent Advances in Geotechnical Engineering Research & Practice**", organised by the Department of Civil and Environmental Engineering, IIT Patna *[July 1-10, 2020]*
- Attended **DFI-India** Webinar Series on **Steel Retaining Structures and Foundations** *[July 29, 2020] [Aug 12,2020]*
- Attended a **webinar** on **Necessity of Seismic Response Assessment for Geotechnical Site**" conducted by Indian Geotechnical Society Silchar Student Chapter *[June 14, 2020]*
- **Member** of the **Indian Concrete Institute**, CET chapter *[2015-'16, 2016-'17]*
- Participated in Model Making as a part of **Pantheon** organised by the ICI CET Student's Chapter *[March, 2016]*
- Participated in the Technical Exhibition and Open House **CETEX** held in connection with the Platinum Jubilee celebrations of College of Engineering Trivandrum *[Jan, 2015]*

EXTRA CURRICULAR ACTIVITIES

- Secured **3rd** price in Rangoli making competition of **PG Cult**, IIT Bombay *[Sept, 2019]*

POSITION OF RESPONSIBILITIES

Teaching Assistant | Department of Civil Engineering | *IIT Bombay*

CE 329: Geotechnical Engineering **Lab I** CE 336: Geotechnical Engineering **Lab II** *[July, 2019- June, 2020]*

- **Guided** UG students to learn basic **experimental skills** in Geotechnical Engineering.
- **Evaluated** the **performance** of the students by correcting their lab files and exam papers.

TECHNICAL SKILLS:

Software proficiencies:

- AutoCAD
- Revit Architecture
- STAAD Pro
- PLAXIS
- MATLAB
- MS Office

COURSES AND CERTIFICATIONS

- Autodesk Authorised training centre course **BIM for structures**, from Intercad Systems (PVT) *[July, 2019]*
- Completed **Introduction to Data Analysis Using Excel** by RICE University, from Coursera *[Aug, 2020]*

RELEVANT COURSES ATTENDED

- Advanced Foundation Engineering
- Design and Testing of Pile Foundations
- Prestressed Concrete
- Advanced Design of Reinforced Concrete Structures
- Quantity Surveying and Valuation
- Foundation of Offshore Structures
- Computing in Civil Engineering
- Advanced Soil Mechanics
- Earthquake Resistant Design of Structures
- Construction Management

HOBBIES AND INTERESTS

- Listening to songs
- Dancing
- Playing carroms