

# VEDANG PATIL

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## EDUCATION:

2022- Present	<b>University of Illinois Urbana-Champaign</b> MS Civil Engineering – Structures Courses: Reinforced Concrete II, Structural Dynamics, Structural Mechanics, Earthquake Engineering, Finite Element Method, Steel Structures II, Design of Tall Buildings (CGPA 3.33/4)
2018- 2022	<b>MIT World Peace University India</b> B.Tech Civil Engineering (Gold Medalist CGPA 9.84/10)

## PROJECTS AND PUBLICATIONS:

<b>“An Experimentation on the properties of Geo-polymer concrete with fibers”</b>	Scopus
<b>“Structural Assessment of Composite Concrete Members for Waterproofing and Thermal Insulation”</b>	Springer
<b>“Comparison Of Properties of Concrete Having Basalt and Polypropylene Fibre”</b>	Scopus

### Seismic performance of Ferrocement LGS Composite wall panel

The project consisted of developing a FE ABAQUS model and a macro ETABS model of Ferrocement LGS. Ground motion time histories of 25 earthquakes were analyzed, scaled by considering PGA values. This calibrated model (1 & 2 storey) was then subjected to all the time histories, a total of 3000 simulations to develop Incremental dynamic analysis and Fragility curves. The results of this project are now considered for proposing a new Indian Standard code.

### Structural analysis and design Koti Bhaskar Infrastructure project

An architectural plan of a G+10 storey building was provided with the site and terrain conditions. It was then analyzed by considering necessary loads and designed as per the IS 456:2000 and IS 13920 for ductile detailing. Seismic loads and wind analysis was done by referring to IS 1893 and IS 875 part III.

### Design and modeling of G+8 residential using Revit

This project consisted of modeling as per architectural plan, a ground floor followed by typical residential layout upto 8th storey. Design considerations were made using NBC 2016, for general building, fire safety and construction material requirements.

## INTERNSHIP EXPERIENCE:

March - April 2021	<b>JW Consultants</b> <ul style="list-style-type: none"><li>Studied and reviewed various working drawings.</li><li>Performed Structural analysis, modeling and design and developed a special moment resisting frame for a G+11 storey structure as per IS 456, IS 1893 and IS 875, IS 13920 to optimize reinforcement quantities to provide economical sections and also reduce wind and earthquake loads and resist first mode torsion.</li></ul>
May - June 2021	<b>SS Patane and Associates</b> <ul style="list-style-type: none"><li>Performed Structural analysis and design of G+2 bungalow situated on sloping contour with lateral forces on the front columns and provided additional reinforcement in the grade beam to design foundation accordingly.</li><li>Performed Structural audits and prepared audit reports for conservation projects.</li></ul>
Dec 21 - March 2022	<b>Paranjape Schemes Construction Limited</b> <ul style="list-style-type: none"><li>Worked on a township project Forest Trails, Pune with the quality engineering team to perform checks like column diagonals and starters, beam bottoms, span dimensions, concrete design at RMC plant and steel reinforcement and prepared costing and quantity estimations to reduce wastages.</li><li>Prepared schedule of concrete batching and casting for 3 weeks followed by work delegation to laborers under the guidance of project engineers.</li></ul>

## SKILLS

**Analysis/Design :** ETABS, SAP2000, SAFE, AutoCAD, Revit, Solidworks, Fusion 360

**Others:** MATLAB, Simulink, C, Python, Microsoft Office Suite

**Codes:** ACI 318-19, AISC-2015, ASCE 7-2022, IS 456:2000, IS 1893:2016, IS 13920, IS 1343, IS 875 - I, II, III, V

## ACHIEVEMENTS

- JN Tata Endowment Scholar 2022
- MIT WPU Civil Tech Fest- 2<sup>nd</sup> position Concrete design
- Bentley Systems Future Infrastructure star 2021 – Top 25

## EXTRACURRICULARS

Innovators Hub, Ionosphere, INEW Technologies - Founder  
ASCE, AISC, ACI, CTBUH and ISSE - student member  
UIUC Graduate Student Advisory Committee (Outreach)