



Biplab Singha
Civil Engineering
Indian Institute of Technology Bombay

22B0648
B.Tech.
Gender: Male
DOB: 27/09/2002

| Examination | University | Institute | Year | CPI / % |
|---------------|---|---|------|---------|
| Graduation | IIT Bombay | IIT Bombay | 2026 | |
| Intermediate | West Bengal Council of Higher Secondary Education(WBCHSE) | Purnanagar Purnachandra High School(H.S.) | 2021 | 92.80% |
| Matriculation | West Bengal Board of Secondary Education(WBBSE) | Purnanagar Purnachandra High School(H.S.) | 2019 | 93.57% |

SCHOLASTIC ACHIEVEMENTS

- Secured District Rank **3** in **Matriculation** among approx **0.1** million candidates (2019)
- Scored **100** out of **100** in **Mathematics** in Secondary Examination and **topped** in School (2019)
- Received **Silver Medal** for outstanding performance in **Higher Secondary Examination** (2021)
- Secured **98.23 Percentile** in **West Bengal Joint Entrance Examination(WBJEE)** among **0.16 Million** candidates (2022)
- Secured **96.57 Percentile** in **Joint Entrance Examination(Main)** among **1.02 Million** candidates (2022)
- One of the **8** out of **150+** students to get an **AA** grade(10 out of 10) in **Solid Mechanics Laboratory** course for exceptional performance (2023-Autumn)

PROFESSIONAL EXPERIENCE

Summer Internship | Larsen & Toubro (June - July, 2024)

Posted on Construction Site of an ongoing project 'L&T Commercial Tower'

L&T Construction, Powai, Mumbai, Maharashtra

- Focused primarily on **Learning** and **Development** of **New Skills**
- Gained a **Deeper Undertaking of Concepts** through **Hands-on** application of the knowledge I learned in College
- First **Learned** and **Understood**, then involved in the activity and helped professional engineers to **Execute**
- Took **leadership** of **Manpower** and **Executed** small small task under the supervision of **Senior Execution Engineer**
- Taken insight of **Project Management**, **Project Planning**, **Project Scheduling**, **Project Estimation**, **Project Execution**, etc under the supervision of **Project Manager**, **Construction Manager**
- Associated with a team of most experienced **Civil Engineers** in **India**

Summer Research Internship | IIT Bombay (May - Jun. 2024)

Experimental Investigations in Alkali activation based 3D Printable Concretes

Guide: Prof. Prakash Nanthagopalan, Dept. of Civil Engineering, Co-guiding with Prof. Najeeb Shariff, Civil Engg.

- Gained a deeper understanding about **3D Printable Construction Material** through **Hands on**
- Learned and Observed about some **Crucial Behaviour** of Concrete through **Experiment**
- Learned about the **Software** used for **Creating** and **Slicing** model to be **3D Printed**
- Perform multiple **Flow Table Test** and **Analysed Test Result** to predict the **Variation** in **Workability** of Concrete with **Time** and **Admixture** under the **Supervision** of **PhD Researcher**
- Operated **Robotic Arm 3D Printer** worth around **3 Crores**

POSITIONS OF RESPONSIBILITY

Institute Technical Convenor | Tinkerer's Laboratory, IIT Bombay (May, 2023- Apr. 2024)

An integral team member of alumni-funded 'Makerspace' for innovators to encourage prototyping and execution

Tinkerers' Laboratory Convenor

- Working with a team of **8** people who manage the lab and helping students for Projects, ensuring optimum utilization of resources and equipment consisting of any inventory worth **INR 60,00,000** funded by alumni
- Encouraging in-house product development for self-sustenance of the lab and arranging **Corporate Sponsorship**
- Secured **INR 80,00,000** worth of **alumni-funded equipment** and **inventory**
- Made a plan of action for improving the **Equipment Management**, **Handling** and **Maintenance** of the lab
- Organised **Hackathon** conducted by **Hewlett-Packard** with prizes of **USD 5000** and **Placement Interview**
- Conducted **Tinkering Bootcamp** for **150+** IITB students at **Learner's Space** and taught various concepts like **TinkerCAD**, **Cading in Solidworks**, **Design Thinking**
- Organised **Cozmoclench** in collaboration with **Techfest**, involving **75+** participants, where students created remote controlled bots with a **Gripper Mechanism**, using both wired and wireless mechanism

Department Academic Mentor | Department Academic Mentorship Program(SMP), IIT Bombay (May, 2024 - Present) *D-AMP Mentor | Department of Civil Engineering*

- Part of a **31-member** team selected after a rigorous interview process along with careful peer reviews from **90+** Candidates
- Responsible for mentoring **6 Sophomores** to help them cope with **Academic Difficulties**, offering support to relieve **Academic Pressure**, guiding them in **Time Management** and ensuring a smooth transition for them into the **Departmental Core Curriculum**
- Providing Counsel to students for their **Holistic Development** and guiding them choosing relevant Courses

TECHNICAL SKILLS

- **Programming:** C++, MATLAB, Python
- **Software:** ETABS, Sap, AutoCad, MS Office, Excel, Fusion 360, TinkerCAD, SolidWorks, L^AT_EX
- **Libraries:** math, numpy, random, pyplot, pandas, geopandas

TEACHING EXPERIENCE

Teaching Assistant (TA) | Department of Electrical Engineering, IIT Bombay (July, 2023- Nov, 2023)
Makerspace (MS101), Prof. Joseph Jhon, Department of Electrical Engineering, IIT Bombay

- Held weekly **Interactive Lab** where Electrical and Electronics based Experiment have been done by the students, problem theoretical as well as experimental faced by them have been resolved
- Specially appointed for the **Project Development** position for the final project which will be given in the Endsem
- Acting as a **Point of Contact** to a group of 50 students for **Project-Related** Queries in order to provide support in the final Project and boost students' performance by guiding them

KEY PROJECTS

IIT Bombay Seismic Team | Seismic Design Competition | Earthquake Engineering Research Institute (EERI), USA (Oct, 2023- Present)

Construction Head | Structural Design and Construction | Designing and Constructing Earthquake Resistant Complex Tall Building Model (San Francisco 2023 and Seattle 2024)

- Going to represent IIT Bombay internationally in **Seismic Design Competition 2025** where participates more than 30 top tier **Technological Institutions** of the World and Working with a team of **24** member
- Working for the **Structural Part** of the Structure
- Designing and Going to Construct a **19-Story** tall Structure with a Non-buildable area in-between

Automated Chessboard | Tinkerer's Laboratory

(July, 2023)

- Designed the mechanical part, also made a 3D CAD file beforehand to analyse different aspect
- made **Electrical Circuit** and all **Electrical assembling** for this Chessboard
- Explored manything about **Microcontroller**, **Digital Circuit** and its **Algorithms** and learned a lot
- Created a **Control System**, incorporating microcontroller to syncronize real-world moves with a digital interface

Makerspace Course Project | Line-follower-Slope Climbing-Unloading-Reverse Back | MS101 (Spring, 2022- 23) *Prof. Joseph Jhon, Department of Electrical Engg., Prof. Ankit Jain, Department of Mechanical Engg.*

- Learned **Fusion 360**, **Solidworks**, **Electrical Circuit** etc.
- Designed the Model of the Boat and specified all the Dimension
- After evaluation and final run, bot came under **Top-10**

EXTRACURRICULAR ACTIVITIES

- Completed **Machine Training Workshop** at **Tinkerer's Laboratory, IITB** and now proficient in ushing machines and tools at TL with **Uttermost Safety** (Nov, 2022)
- Student Volunteer in **Sustainable Social Development(SSD)**, **National Service Scheme(NSS)**, **IIT Bombay** (Oct, 2022- Feb, 2023)
- Conducted, Perticipated and Completed **Tinkering Bootcamp** in **Learners' Space, 2023** hosted by **UGAC, ITC, IIT Bombay** (July, 2023)
- Taken Motivation and Strategies Session on Online **Online JEE,NEET** Coaching Center **eSaraI** (2022- 23)
- Participated in the demonstration of the **MS101** course Project at an exhibition held by **MAKER SPACE, IIT Bombay** on 27th September, 2023 (Sept, 2023)