Divakar Sai savaram   **210050143**
Computer Science & Engineering   **B.Tech.**
Indian Institute of Technology Bombay   **Gender: Male**
                                                           DOB: 29/12/2004

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2025	9.27
Intermediate	AP BIE Board	Sri Chaitanya	2021	98.00%
Matriculation	AP SSC Board	Sri Chaitanya	2019	10

SCHOLASTIC ACHIEVEMENTS

- Achieved **All India Rank 11** in JEE (Advanced) among 140,000 eligible candidates   [2021]
- Secured **All India Rank 79 (99.996 percentile)** in JEE (Main) out of 1 million candidates [2021]
- Recipient of **National Talent Search Scholarship** by NCERT, Government of India   [since 2019]
- Achieved **Rank 4** in AP EAPCET(conducted by APSCHE) among 166,000 eligible candidates[2021]
- Achieved **Rank 9** in TS EAMCET(conducted by TSCHE) among 121,000 eligible candidates   [2021]

OLYMPIADS

- Among the nationwide **top 64** to attend the **OCSC** for **Chemistry** conducted by HBCSE   [2021]
- Among the nationwide **top 347** students selected for **IOQP** part-2 (**INPhO**)   [2021]
- Among the nationwide **top 317** students selected for **IOQC** part-2 (**INChO**)   [2021]
- Among the nationwide **top 253** students selected for **IOQA** Group-A part-2 (**INAO**)   [2021]
- Ranked among the **National Top 1%** in **IOQC** and **IOQP** organised by IAPT   [2021]
- Among India's **top 41** to receive **Gold Medal** in **OCSC** for **Science** conducted by HBCSE [2019]
- Among India's **top 35** candidates qualified for the **OCSE Maths** camp conducted by HBCSE [2019]
- Awarded with the opportunity to attend **OCSE** camp for Astronomy conducted by HBCSE.   [2019]
- Among India's **top 77** candidates qualified for **Asian Pacific Mathematics Olympiad**.   [2019]

KEY PROJECTS

Rail Planner   [Autumn 2022]
Guide: Prof Surpratik Chakraborthy | Course Project   *IIT Bombay*

- Developed a rail planner in C++ using data structures such as **trees,dictionaries,heaps,tries** etc..
- Optimized station search-completion feature by implementing a **trie** of station names.
- Implemented a **hash function** to efficiently search and store station names in dictionary.
- Implemented **KMP** algorithm to process reviews and used **quicksort** algorithm to list departures.
- Implemented **priority queue** data structure to fetch up reviews based on rating.

Fast Chat System   [Autumn 2022]
Guide:Prof.Kavi Arya | Course Project   *IIT Bombay*

- Building a network of clients interacting with each other with help of servers acting as mediators
- Obtaining a high throughput with the limited resources dedicated for the servers(efficiency).
- Ensuring low latency of individual message deliveries and **End to End encryption** between clients
- Using **authlib** Library for authentication,**PostgreSQL** server and bash for collecting results.

Image Processing and Data Analysis   [Autumn 2022]
Guide:Prof.Suyash Awate | Course Project   *IIT Bombay*

- Algorithm for Euclidean Planar uniform Sampling, implementation of **PCA** for Hyperplane Fitting
- **Linear Regression** on scatter-plots, process handwritten digits, Character Recognition using PCA
- **Dimensionality Reduction**, visualize 28x28 pixel image on 84-D Hyperplane, maximize Dispersion
- Process Group similar looking fruits; measure of Closeness:**Forbenius norm** of the difference

OTHER PROJECTS

Personal Website [Autumn 2022]
Guide:Prof.Kavi Arya | Course Project IIT Bombay

- Developed a **responsive** website containing various pages demonstrating various features in them.
- Made the webpage attractive by using **CSS, Bootstrap** and added an interactive page using **JavaScript**.
- Made use of the **BootStrap Libraries** to club 3-4 photos into a slide show accessed by a click.

Tic Tac Toe [Autumn 2022]
Guide: Prof Kavi Arya | Course Project IIT Bombay

- Developed a two player interface of tic-tac-toe game using **Socket Programming** in Java.
- Implemented **client-server** architecture model in Java to develop an interactive game of tic-tac-toe.

Random Walkers [Autumn 2022]
Guide: Prof Suyash Awate | Course Project IIT Bombay

- Verified the **Law of Large Numbers** using the true and empirically computed **mean** and **variance**.
- Simulated **N Random Walkers** using **MATLAB** to obtain a Gaussian distribution plot.

Bubble Trouble [Autumn 2021]
Guide: Prof Parag Chaudhuri | Course Project IIT Bombay

- Implemented a game Bubble Trouble in C++ using **simplecpp graphics** library with simple OOP.
- Implemented a constant gravity field,various difficulty levels and collisions between balls.
- Made the game to end using a timer and also added a Score counter which shows the final score.

Maze ball [Summer 2022]
Guide: Prof Rushikesh K Joshi | Course Project IIT Bombay

- Programmed a game which models a maze ball using **FLTK** Library and graphics using Inheritance
- The commands passed to the maze ball(to move) are processed using **Event Handling.**

TECHNICAL SKILLS

Programming Languages	C++, C, Python, Java, Bash, Sed, Awk, Prolog
Softwares	MATLAB, LaTeX, Git
Documentation	Doxygen ,Sphinx , LaTeX
Web & App Development	JavaScript, CSS, Bootstrap, HTML

COURSES UNDERTAKEN

Computer Science	Computer Programming and Utilization, Abstractions and Paradigms in Programming including Lab, Software Systems Lab, Data Structures and Algorithms including Lab, Data Analysis and Interpretation, Discrete Structures,Design and Analysis of Algorithms*,Computer Networks*,Digital Logic Design and Computer Architecture*,Logic for Computer Science*.
Mathematics Courses	Calculus I,Calculus II,Linear Algebra,Ordinary Differential Equations,Optimization Models
Other Courses	Quantum Physics and its applications, Basic of Electricity & Magnetism, Introduction to Electrical and Electronics Circuits, Engineering Drawing,Organic & Inorganic Chemistry, Physical Chemistry, Biology, Economics*.

*to be completed by April 2023

EXTRACURRICULAR ACTIVITIES

- Completed one year of volunteering in **NSS OLI** aiming to enhance learning from **OLI YT Channel** having **125K subscribers** by providing **recorded lectures** in regional languages. [2021-22]
- Participated in **CodeWars-V1**(Bot Programming Contest) conducted by WnCC IIT Bombay [2021]
- 1st Runner Ups in the Intra School **Doubles Badminton Tournament** [2021]
- Awarded with a **Gold Medal** as the winner of Inter-School Over Head pass Tournament [2016]