

# Gaurav Budhwani

Junior Undergraduate

Dual Major in Computer Science and Chemical Engineering

Indian Institute of Technology, Gandhinagar

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## ACADEMIC DETAILS

Degree	Specialization	Institute	Year	CPI/%
B.Tech. (Dual Major)	Computer Science and Chemical Engineering	IIT Gandhinagar	2022-Present	8.45
Class XII	Physics, Chemistry, Maths	All Saints School	2021-2022	94.2
Class X		All Saints School	2019-2020	93.8

## PROJECTS

- **Efficiency and effectiveness calculation of Helical Fins in a Double Heat Exchanger** (Project Link) [Jan '24 - Present]  
(Advisor: Prof. Biswajit Saha, Assistant Professor, Chemical Engineering, IIT Gandhinagar)
  - calculating heat transfer coefficient.
  - Comparison with simple double heat exchanger with the model.
  - Calculating Efficiency and Effectiveness of the fin.
- **Developing Games and Puzzles with C and C++ Using DSA** (Project Link) [Jan '24 - April '24]  
(Advisor: Prof. Balopal Komrath, Assistant Professor, Computer Science and Engineering, IIT Gandhinagar)
  - Developed games like Connect4, Up-it-Up, Sudoku Solver, and 2x2x2 Rubik's Cube Solver using optimal move strategy between two player moves and graph traversal algorithms.
- **Increasing Efficiency of Rankine Cycle** (Project Link) [Oct '23 - Nov '23]  
(Advisor: Prof. Atul Bhargav, Professor, Mechanical Engineering)
  - Analysed the data of population by mother tongue in different cities of India. Filtered out data to focus only on the scheduled mother tongue and calculated the percentage of speakers in each city. Analysed variation in languages.
  - Used Power BI, Excel to create charts and bar graphs to visualise the data. By analysing the data, drew conclusions about the percentage of mother tongue speakers in different cities of India.
- **Transient Thermal Analysis of a Car Brake System** (Project Link) [Sept '23 - Oct '23]  
(Advisor: Prof. Dilip Srinivas Sundaram, IIT Gandhinagar)
  - Conducted analysis of AirBnb hosts' data and extracted valuable insights. Implemented detailed data cleaning procedures to ensure the accuracy and reliability of the dataset. Utilized statistical and graphical methods using Power BI, Gretl softwares to explore the dataset, identifying patterns, trends, and key factors influencing host performance.
- **Analysis of Datasets using Probability, Machine Learning, and Statistics** (Project Link) [Jan '23 - April '23]  
(Advisor: Prof. Shanmugathan Raman, IIT Gandhinagar)
  - Conducted analysis of AirBnb hosts' data and extracted valuable insights. Implemented detailed data cleaning procedures to ensure the accuracy and reliability of the dataset. Utilized statistical and graphical methods to explore the dataset, identifying patterns, trends, and key factors influencing host performance.

## TECHNICAL SKILLS

- **Programming Languages:** Python, C, C++, MATLAB, HTML, CSS, JavaScript, Ansys Fluent, Flask, Sqlite
- **Tools:** Autodesk Fusion 360, Autodesk Inventor, Laser Cutting, 3D Printing, Git, Arduino UNO, LATEX
- **Libraries:** NumPy, SciPy, Pandas, Plotly, Matplotlib, Seaborn, Scikit-Learn, OpenCV.

## ACHIEVEMENTS

- Secured a grade of A+ (11/10) for outstanding performance in the course of Numerical Methods by successfully doing the project and simulation on "Transient Thermal Analysis of a Car Brake System."
- Felicitated with Dean's List Award IITGN for Semester II for excellent academic performance.
- Felicitated with Academic Excellence Scholarship, being the student with the highest CPI in the department of Chemical Engineering for AY 2023 - 2024.

## POSITIONS OF RESPONSIBILITY

- **Design Executive, Amalthea'23, IIT Gandhinagar's Annual Technical Summit** [Jan '23 - Dec '23]
  - Created engaging social media designs for diverse platforms, utilizing Adobe Illustrator, Canva, and other graphic design software.
  - Developed visually appealing posters to enhance brand visibility and engagement across multiple social media channels.
  - Also contributed to the design department of Amalthea'22 by making posters, ID cards, and other necessary items required from the design department for the summit.