Yogit

3rd Year Undergraduate
Department of Physics

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Academic Qualifications

Year	Degree/Certificate	Institute	CPI/%
2021 - Present	B.S	Indian Institute of Technology, Kanpur	7.81/10
2020	Class XII (CBSE)	Hope Hall Foundation School, New Delhi	93%
2018	Class X (CBSE)	Hope Hall Foundation School, New Delhi	92.6%

Scholastic Achievements

- Achieved an **All India Rank 4482** in **JEE (Advanced) 2021** among **150K+** shortlisted candidates.
- Secured an **All India Rank 5586** in **JEE (Mains) 2021** among **1.05 million** appeared students
- Attained **All India Rank 512** and selected for **Kishore Vaigyanik Protsahan Yojana**(KVPY) fellowship in 2018-19
- Qualified for **RMO 2019** by clearing **Pre Regional Mathematics Olympiad** (PRMO 2019)

Key Projects

Robotic Bin Picking and Grasp Planning *(May'23- Ongoing)*
Mentor: Ph.D. Scholar Prem Raj Kala, Department of Computer Science Engineering.

- Improved upon existing **Grasp Planning Algorithm** based on **K-Means Clustering** to return **Valid Grasp Poses**
- Applied **Segmentation** based approach that further divides objects based on a **Fixed-Length Criteria**
- Developed **Normal Grasping Algorithm** that ensures that the grip is in **Optimal Antipodal Configuration**

Machine Learning in C *Self Project* *(Jun'23-Ongoing)*

- Developed a framework for **Neural Networks** in **C** language.
- Used the framework to train and test **Multilayer Perceptron model** on **OR**, **AND** and **XOR** operations.
- Analyzed differences between **Gradient Descent Algorithm** and **Backpropagation method** on **n-BIT adder**.

Algo101x *(July'22- Nov'22)*
Stamatics Club

- Covered basics of Competative Programming : **STL**, **Hashing**, **Range Queries** and **Dynammic Programming**

Technical Skills

Programming Languages: C, C++, LaTeX, MATLAB, Python
Software and Libraries: Git, OpenCV, Numpy, AutoCAD

Positions of Responsibility

Student Guide, Counselling Service Team *(2022-Present)*
- Guided and mentored **6 freshmen** students in acclimatizing to the Environment of the Institute.
- Helped them with their academics by arranging meetings with their mentors and still maintain a good rapport with them.
- Coordinated with the Counselling Service and helped in the organisation of **Orientation Programme 2022**.

Academic Mentor, Counselling Service Team *(Nov'16-Dec'16)*
- Guided students of freshman year through the courses of **Real Analysis**, **Linear Algebra and Differential Equations** by organising doubt solving sessions and one to one mentoring.

Relevant Courses

Data Structure and Algorithms	Fundamentals of Computing (in C)
Introduction to Electronics	Linear algebra and Differential Equations
Partial Differential Equations	Introduction to Electrical Engineering