

# SHREYANSH YADAV

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## SUMMARY

- Hi, I'm Shreyansh Yadav currently pursuing B.Tech in Electrical Engineering : Major in Electric Vehicle at Rajiv Gandhi Institute of Petroleum Technology(2022-2026).I have a keen interest in applying innovative engineering solutions to real-world challenges in the electric vehicle sector and am eager to leverage my academic knowledge and hands-on project experience in a dynamic professional environment.

## COURSEWORK

- Power Electronics
- Electrical Machines
- Signals & Systems
- Network Analysis & Synthesis
- Digital Circuits & Systems
- Control Systems
- Analog Circuits & Systems
- Sensors, Actuators & Control for Electric Vehicles

## PROJECTS

### Modeling and Identification of DC-DC Buck Converter

- A mathematical model of the buck converter was developed using state-space representation. This involved analyzing the circuit components—inductors, capacitors, and switches—to understand their dynamic behavior during operation.
- Using MATLAB/Simulink, the model was simulated to observe the converter's response to different input voltages and load conditions. This helped in visualizing output voltage stability and efficiency under various scenarios.
- Different control strategies, including PID control, were implemented to maintain the output voltage within desired limits despite load fluctuations.
- System identification techniques were applied to extract model parameters from experimental data. This involved collecting real-time performance data and using it to refine the model for accuracy.

### Advanced Control Techniques for Highly Efficient Power Converters

- Designed and implemented advanced PWM control algorithms to optimize switching behavior, leading to a significant improvement in power converter efficiency and a reduction in energy losses.
- Created PWM techniques that dynamically adjusted duty cycles, enhancing converter performance across varying load conditions and maintaining stable operation.
- Minimized harmonic distortion and electromagnetic interference through accurate modulation of PWM signals, boosting system reliability and power quality.

## EDUCATION

Degree	Institute	CGPA/Percentage
B.Tech- Electrical Engineering (Major : E-Vehicle)	Rajiv Gandhi Institute of Petroleum Technology, Amethi, Uttar Pradesh	8.67
CBSE Class 12th	Maharshi Patanjali Vidya Mandir, Prayagraj, Uttar Pradesh	85.8%
CBSE Class 10th	Maharshi Patanjali Vidya Mandir, Prayagraj, Uttar Pradesh	88.2%

## TECHNICAL SKILLS

**Languages:** C, C++, Python

**Technologies/Frameworks:** MATLAB, Simulink, AutoCAD

## ACHIEVEMENTS

- Qualified IIT JEE Advanced 2022 with the rank of 24941
- Got 2nd Position in Egg Drop Challenge held at Urjotsav 2023, RGIPT