UDIT SAINI

📞 +91-8279632657　✉ 22ev3031@rgipt.ac.in　in Udit Saini

SUMMARY

Pre-final year Electrical Engineering student at RGIPT with a keen interest in Power Engineering and Control Systems. Strong foundation in electrical systems, circuit analysis and control mechanisms. Actively seeking opportunities to apply technical skills in real world projects and internships. Passionate about developing efficient energy systems to address industry challenges. Equipped with hands-on experience in relevant engineering tools and a commitment to continuous learning and problem-solving.

EDUCATION

Rajiv Gandhi Institute of Petroleum Technology　　　　　　　　　　　　　　**2022 – 2026**
*(An **Institute of National Importance** along the lines of IITs)*　　　　*Amethi, Uttar Pradesh, India*
B. Tech in Electrical Engineering (Major : E -Vehicle)

Scholars Academy Sr. Sec School　　　　　　　　　　　　　　　　　　　　　**2020 – 2021**
CBSE Class 12th - **Percentage - 77.4%**　　　　　　　　　　　　　　　*Roorkee, Uttarakhand, India*

Scholars Academy Sr. Sec School　　　　　　　　　　　　　　　　　　　　　**2018 – 2019**
CBSE Class 10th - **Percentage - 89.4%**　　　　　　　　　　　　　　　*Roorkee, Uttarakhand, India*

PROJECTS

Modeling and Identification of DC-DC Buck Converter　　　　　　**Sep, 2024 - Ongoing**

- Guide - Dr. Saurabh Pandey
- Developed a state-space model for DC-DC buck converter to analyze system dynamics and behavior. Designed and implemented PID and PWM control strategies for effective voltage regulation and system stability.
- Utilized system identification techniques to estimate key parameters, optimizing model accuracy and control performance.
- Executed MATLAB-Simulink simulations to validate model performance, leading to the identification of key inefficiencies; findings contributed directly to optimizing control strategies and improving overall system response time by 30 milliseconds.
- Performed hardware validation through real-time testing, ensuring robust and reliable converter operation under varying loads and input conditions.

BLDC Speed Control on Simulink　　　　　　　　　　　　　　　　　　**Aug, 2023**

- The project involved designing an Electronic Speed Controller (ESC) and implementing commutation logic using Hall sensors.
- The system compared the desired and actual motor speeds, ensuring accurate speed regulation.
- Designed a feedback loop to compare and adjust the motor's actual speed against the desired speed. Analyzed motor performance to enhance control accuracy and efficiency.

TECHNICAL SKILLS

Languages:
C, Python

Technologies/Frameworks:
AutoCad, SimuLink, MATLAB, MS Excel

COURSEWORK / SKILLS

- Control Systems
- Power Electronics
- Electrical Machines
- Network Analysis
- Analog and Digital circuit systems
- Signals and Systems

ACHIEVEMENTS

- Qualified IIT JEE Advance 2022 with AIR (among top 2%)
- Qualified NDA written exam in year 2021