Jagrit Joshi

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Education

National Institute of Technology — Surat, Gujarat, India
B.Tech in Electronics and Communication - ***9.01*** — *Dec. 2021 – May 2025*

Scholars Home School — Dehradun, Uttarakhand, India
Senior Secondary - ***94.4%*** — *May 2020*

Scholars Home School — Dehradun, Uttarakhand, India
Matric - ***94.8%*** — *May 2018*

Experience

Summer Research Internship — May 2024 - July 2024
NTNU, Gjovik, Norway

Summer Research Internship — May 2023 - July 2023
National Physical Laboratory, New Delhi

Technical Skills

Programming Languages: C, C++, Python (Pandas, Numpy, Matplotlib), HTML, CSS, SQL

Frameworks & Tools: Django, OpenCV, PyTorch, TensorFlow

Machine Learning & Deep Learning: Neural Networks, Transformers (Vision Transformers, Video Vision Transformers), Generative Adversarial Networks, Diffusion Models

Image Processing: Computer Vision, Image Super-Resolution, Image Classification, Object Detection

Projects

Image Processing | *NTNU, Gjovik, Norway* | *NTIRE Image Super-Resolution Challenge, 2024*

- The main focus was to **super-resolve the Wireless Endoscopy Images four times**, enhancing quality and clarity, using the **unsupervised approach**. We used different, **Transformers, Generative Adversarial Networks** to enhance our images. Also collaborated with a team for the NTIRE challenge which led to a **Top-10** finish in the competition. Additionally, our **challenge paper** was **published**.

Customer Churn Analysis | *Data Analytics*

- Developed an end-to-end ETL process using **SQL** and created a comprehensive **Power BI** dashboard to analyze customer data across various dimensions.The project involved studying customer churn profiles, identifying key areas for implementing targeted marketing campaigns, and developing **Machine Learning models** to predict future churners. Key metrics analyzed included total customers, churn rate, and new joiners, providing actionable insights to support business decision-making and customer retention strategies.

A Tool For Visualizing Network Time Protocol (NTP) Data | *National Physical Laboratory , New Delhi*

- In this project **Django (a Python framework)** is used to visualize the data. Utilized **SQL database** to efficiently store and manage large volumes of data, enabling seamless data manipulation through optimized **SQL queries** and improving **data analysis** processes.

Mars Rover | *International Rover Design Challenge, 2023* | *DRISHTI, SVNIT Surat*

- Collaborated with a team to build a **Rover**, integrating both **Electronics and Artificial Intelligence**. Designed **detection and classification models** using **Computer Vision**, **Machine Learning**, and **Deep Learning** to identify obstacles, directional arrows and objects. Developed and implemented several **obstacle avoidance algorithms**. Achieved a **12th place** finish in the **International Rover Design Challenge, 2023.** .

Robotic Arm | *Flipkart GRiD 5.0*

- Developed a deep-learning model for real-time object detection using **OpenCV, Make Sense AI, and transfer learning(YOLO model)** which **detects boxes and QRs on the boxes** using a camera module and labels them. The prebuilt model was trained on the **custom-made dataset** that consists of images of boxes, QRs, and QRs on boxes. Were amongst the **Top 30** teams in **Flipkart GRiD 5.0 - Robotics Challenge.**