



TANMAY TOTLA

Roll No.:210103108

B.Tech - Mechanical Engineering

Indian Institute Of Technology, Guwahati

+91 7414824952

t.totla@iitg.ac.in

tanmaytotla@gmail.com

Linkedin || Portfolio || Github

EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech. Major	Indian Institute of Technology, Guwahati	7.50 (Current)	2021-Present
Senior Secondary	CBSE Board	85.0%	2021
Secondary	CBSE Board	91.6%	2019

EXPERIENCE

- Hanyang University - Fuzzy Systems and Computer Vision Lab** June 2024 - Jul. 2024
Research Intern under Prof. Frank Chung Hoon Rhee South Korea
 - Developed an Adaptive PCA-Enhanced KM algorithm for Type-2 Fuzzy Logic Systems, reducing centroid computation by up to 75-95% while maintaining an accuracy of 99% across high dimensional standard datasets.
 - Introduced an innovative PCA stopping criterion using Cumulative and Differential Variance Thresholds to optimize dimensionality reduction, improving computational efficiency while preserving key data characteristics.
 - Tested the work using plots and visualizations on synthetic and real datasets curated using MATLAB and Python.
- Med-Tour Easy** May. 2024
Data Analytics Trainee Remote
 - Created a content-based recommendation system for cosmetics using word embedding and t-SNE to analyze and illustrate product sizes allowing customers to decide on skin type and reduce the risk of adverse reactions.
 - Implement tokenization, encoding, and interactive visualization with bokeh.

PROJECTS

- Machining Stability and Chatter Analysis using ML** August 2023 - Ongoing
Bachelors' Thesis Project under Dr. Rinku Kumar Mittal
 - Developed predictive models for SLD prediction using ANN and SVM after pre-processing accelerometer data. Performed roughness prediction using GPR on RPM data, enabling predictive maintenance and fault detection.
 - Executed time domain analysis on microphone and accelerometer data for chatter prediction, utilizing statistical parameters like skewness and kurtosis, and frequency domain analysis using FFT to plot SLD (FRF).
 - Technologies and Frameworks:** ANN, SVM, GPR, MATLAB
- MultiLang Image Text Translator: Upload, Translate, and View** March 2024
Self Project Github
 - Developed a web application for multilingual image text translation and new image generation, supporting images with text from over 50 languages. Translates it back to any other language from the same supported set.
 - The website generates a new image with original text removed and translated text overlaid onto the original image.
 - Tech Stack:** OpenCV, Tesseract for OCR, Pillow, PyTorch, FLask, HTML, Javascript, Google Trans API
- Interactive Tableau Dashboard for UK Road Accident Analysis** Dec 2023
Self Project Github
 - Performed extensive EDA using SQL on the dataset to eliminate errors and irregularities for insightful visualizations.
 - Incorporating year-over-year filters for accident severity, and casualty trends. Created dynamic pie charts, plots, and map-based visualizations to categorize accidents by road type, weather conditions, and vehicle type.
 - Tech Stack and Technologies:** SQL, Tableau, Excel

TECHNICAL SKILLS

- Programming Languages and Skills:** Python, C, C++, SQL, HTML, CSS, JavaScript; DSA, CAD
- Tools/Frameworks:** Numpy, Pandas, Scikit-learn, Matplotlib, Seaborn, OpenCV, YOLOv5, Flask, Pickle*, Json*

KEY COURSES TAKEN

- Mathematics:** Real Analysis, Differential Equations, Complex Analysis, Optimization Methods
- Computer Science:** Introduction to Computing, Programming with C
- MOOCs:** Supervised/Unsupervised ML, Advanced Learning Algorithms, LLMs- Application through production

POSITIONS OF RESPONSIBILITY

- Marketing, Events and Outreach Head**, Automobile Club (IITG RACING) Apr. 2023 - Apr. 2024
 - Secured INR 25lakh in sponsorships, acquired industry partnerships with Ansys and MathWorks, led technical workshops and procured car manufacturing parts. Strengthened alumni relations and social media engagement.
- Events Executive, Election Commission**, IIT Guwahati Apr. 2022 - Mar. 2023
 - Organized 15+ debates, and speeches and managed 3 polling stations, ensuring a free and fair electoral process.

EXTRA CURRICULAR

- Consulting competitions**, by CAC, IITG- Boosting Tourism, Strategy Storm, Winter Consulting and by IIT KGP- ICC.
- Team IITG Racing ranked 3 amongst India's Best 19 Teams**, at EV Power Train Design Challenge by Formula Bharat.
- Community Service**, More than 60 hours through various initiatives under National Service Scheme.