

GAURAV BOSE

Final Year Engineering Student

WEBSITE: <https://dodoisadud.github.io/>



[Leetcode](#)



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PROFESSIONAL EXPERIENCE

MITACS GLOBALINK | MACHINE LEARNING AND AI INTERN | McMaster University

MACHINE LEARNING MODELLING OF 3D PRINTING OF CONCRETE || May 2024 – August 2024 | Ontario, Canada

- Ô Analyzed and Processed two compressive datasets that comprises of compressive and flexural strength of concrete mix designs while incorporating Random Forest with Tree-SHAP algorithm using Deep Learning and Tensorflow for achieving accurate X-AI model prediction (DecisionTreeRegressor and RandomForestRegressor of over 95% train accuracy).
- Ô Worked in Google Colab coupled with Tensorflow and PyTorch for exploring and creating the dataset for execution and developing high accuracy (for 12 Robust ML models).
- Ô Developing an optimal Mix proportion for achieving desirable Compressive and Flexural Strength.

WINNER (HULT PRIZE FOUNDATION ON-CAMPUS ROUND), Kolkata | 2024

START-UP Name :- ADAMBI, Product NAME:- Ultra High Performance Cement(205MPa)

Operations, Strategy and Supply Chain Lead || Feb 2023 – Present | Kolkata, India

- Ô Developed a Business Model Framework and core consulting strategies based on operational research and our sustainable concrete, selected for Hult Global Summit in Boston review round.
- Ô Concrete emits 40% less CO2 emission and is approx 17% more tensile than normal concrete.
- Ô Used EPC consulting methodologies and predictive analysis for effective market mining principles.

RESEARCH INTERN | MACHINE LEARNING Intern | Jadavpur University || Feb-May 2023 ||

Department of Construction Engineering | Modeling of strength of high-performance concrete using ML Models |

- Ô Feature engineering with univariate and multivariate analysis, and polynomial categorical features, Outlier detection and handling using Boxplot and whisker method, Data standardization using PowerTransformer and Model training with LinearRegression, Random Forest Regressor, SVR, and Hyper-parameter tuning using GridSearchCV.

PROJECTS

1. Collaborative image denoising on binary sensor data using PCA and Convolutional Autoencoders and Proximal Mapping(Plug-and-Play ADMM)|2023

- Ô Gained hands-on experience in image denoising using various techniques, including: PCA Autoencoders with TensorFlow and Keras backend, Total Variation BM3D denoising with proximal gradient and ADMM Convolutional Autoencoders and deep-learning models like ResNetV2, VggFace-12, EPLL, and BRDNet for blind denoising and feature extraction.

2. Detection based on Deep Neural Network and Transformer/TDNN based Human Activity Recognition | DEEP LEARNING, NATURAL LANGUAGE PROCESSING || 2023

- Ô Gaining hands-on experience in human activity and behavior recognition using various deep learning frameworks, including: TensorFlow for processing sensory data, Convolutional Neural Networks (CNNs) such as LeNet-5 and AlexNet for pedestrian detection, Gramian Angular Field (GAF) and deep CNN for image classification, Vision Transformer (ViT) based models for image classification and Dual attention-based deep learning models for image classification.

3. REAL-TIME Building Construction Project Management |

2nd in SIH (Smart India Hackathon on-campus round) || 2023

4. Supply Chain Optimization and Robust Management Planning(Data Analysis) || 2023

SKILLS

PROGRAMMING

• Python • Javascript • SQL • CSS • HTML • C++ • Pytorch • PySpark

DEVELOPMENT TOOLS AND TECHNOLOGIES

• Node.js • React • Amazon Web Services (AWS) • API • Git/Github
• Google Colab • AutoCAD • STAADpro • Advanced Excel • PowerBI

INTERESTS

- Machine Learning • Deep Learning • Natural Language Processing • Computer Vision • Generative AI • Database Management Systems • Object Oriented Programming (OOP) • Concrete Technology
- Construction Management • Structural Design and Analysis

EDUCATION

JADAVPUR UNIVERSITY

BACHELOR OF CONSTRUCTION ENGINEERING

Dec 2021 - June 2025 | West Bengal, India

GPA: 7.28/ 10

JODHPUR PARK BOYS SCHOOL

(WBCHSE BOARD)

Class XII :- 89.6%

ST.LAWRENCE HIGH SCHOOL

(WBBSE BOARD) Class X : 90%

ACHIEVEMENTS

Solved over 130+ Problems on LeetCode.

Co-ordinator and member of the E-Cell, Jadavpur University

Extended events lead of Google Developers Student Club(GDSC)-JU team. Selected for GDSC Solution Challenge National Round

Working as the Placement Coordinator of Jadavpur University

One of the top-3 finalists at i5 Summit, IIM Indore's Apna Startup B-Plan competition among 2000 other participants, 2023
4th in All India Grappling Championship 2022 and Grappling State Championship Gold Medalist, District Judo Gold Medalist.