

# MOHIT SINGHAL

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## Education

### M.Tech Computational and Data Sciences

2022 – Present

*Indian Institute of Science, Bangalore*

*CGPA: 7.3*

### B.Tech Electronics and Instrumentation Engineering

2014 – 2018

*Ymca University Of Science and Technology, Faridabad*

*CGPA: 6.76*

## Relevant Coursework

- Machine Learning
- Numerical Optimization
- Bayesian Learning
- Intro to Data Science
- Linear Algebra
- Random Variates
- Tensor Computation

## Projects

### Loan-Default-Prediction

May' 23

- Using machine learning techniques such as Ridge, Lasso, ElasticNet, Gaussian Naive Bayes, K-Nearest Neighbors, Decision Trees, Random Forest, AdaBoost, Bagging, and XGBoost for loan default prediction
- Fine-tuned hyperparameters, optimized models for performance, and evaluated them using metrics like Mean Squared Error (MSE), Mean Absolute Error (MAE), and Accuracy.

### Face Mask Detection

May' 23

- Using "Real-world masked face recognition dataset" (RMFRD) and classifying individuals into three categories: those correctly wearing masks, those wearing masks incorrectly, and those not wearing masks at all.
- Fine-tuning a pre-trained ResNet-50 model on our dataset and obtaining an accuracy of 89 percent

### Performing Twitter Sentiment Analysis Using BERT

Apr' 23

- Performed text classification by extracting features using TF-IDF and Word2Vec
- Fine-tuned BERT model with custom output layer and compared it with another model.

### Car Price Prediction

Apr' 23

- Using a dataset of available cars with various features about body and efficiency, prediction of car prices.
- Using different ML techniques (Simple Linear Regression, Multiple Linear Regression, Polynomial Regression, Support Vector Regression, Decision Tree Regression, Random Forest Regression).

### Implementation of Optimization Algorithms

Apr' 23

- Implementing line search methods, linear programming (Simplex) and quadratic programming (Active set).

## Internships

### Junior Associate, Sapient Nitro

May' 17 – Jan' 18

- Description: The project Library Management System aims at developing a fully functional computerized system to maintain all the day to day activities of a library.

## Technical Skills

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

**Tools:** PyTorch, Numpy, Sci-kit Learn, OpenCV

**Technical:** Machine Learning, Image Processing, Optimization, Deep Learning

## Academic Accomplishments

- \* 98.45%ile in GATE-CS 2022.
- \* Certification in Recent Advances and Entrepreneurship in Renewable Energy (2016).