

# Yugdeep Singh Bhatia

Senior Undergraduate  
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🌐 Yugdeep Singh

## Education

Year	Degree/Certificate	Institute	CPI/%
2020 - Present	B.Tech	Indian Institute of Technology, BHU	8.62/10
2020	ISC (XII)	Hill Top School	95.8%
2018	ICSE (X)	Hill Top School	94%

## Work Experience

### Data Science Intern – Mowito Inc.

(May'23 - July'23)

<b>Objective</b>	• Mowito develops robotic picking solutions for grocery warehouses.
<b>Strategy</b>	• Created a Planogram Analyzer to orchestrate the orders based on minimum time and simulated the operations. • Utilized Meta's SAM to annotate <b>100+</b> images, creating a dataset for instance segmentation of FMCG products. • Trained the ARMBench Dataset on <b>AWS EC2</b> using MMDetection Framework and tested it on the local dataset.
<b>Impact</b>	• Developed two movement strategies that reduced the throughput time to under <b>1 minute</b> . • Fine tuned the Pre-trained model and got a <b>mAP</b> score of <b>0.4</b> which was the relevant industry standard.

### Research Intern - IIM Ahmedabad

(May'22 - July'22)

<b>Objective</b>	• The impact of AI and IIoT on time usage across various business sectors.
<b>Strategy</b>	• Analyzed <b>9</b> case studies on the effect of AI on time usage in the fields of law, education, manufacturing etc. • Collected relevant Time Use data and devised empirical formulas to establish relations between <b>100+ features</b> . • Visualized the correlations between AI adoption and shifts in time distribution using <b>matplotlib</b> and <b>seaborn</b> .
<b>Impact</b>	• Generated a report on the various aspects of AI in helping users achieve a better result in less time.

## Key Projects

### Credit Card Fraud Detection

(Aug'23)

*Built a model to generate the scorecard of a customer using the UCI Credit Card dataset*

- Preprocessed the data, applied feature binning, selected the features using **Information Value, WOE**.
- Created a baseline XGBoost model, achieving an AUC score of **0.79** and a K-S score of **0.41** through cross-validation.
- Evaluated model stability using PSI and generated a scorecard to classify the customer into **8 levels**.

### Hate Tweet Classification

(Dec' 22)

*Formulated and Implemented an NLP model for sentiment analysis on Twitter*

- Analyzed the Kaggle dataset containing **31000+** tweets and cleaned it using regex, stopwords and tokenizers.
- Preprocessed the data with stemming, lemmatization, and applied **Text Vectorization** using **TF-IDF**.
- Trained a stacked model with Logistic Regression, Decision Trees, Gradient Boosting and compared AUC ROC scores.

### Employee Attrition Rate Prediction

(Aug'22)

*Developed a model to predict the attrition rate in an organization*

- Applied data cleaning to fill missing values, remove outliers and performed **EDA** to get the relevant features.
- Standardized the data using RobustScaler and implemented Random Forest and Linear Regression algorithms.
- Tuned the hyper parameters using **Ridge Regression** and **Grid Search** to achieve an RMSE of **0.84** on the test dataset.

## Position of Responsibility

### Marketing and Industrial Relations Executive | Society of Chemical Engineers

(July'21-July'22)

- Suggested methods to curate the society's social media handles to capture more following and sponsors.
- Crafted company database, designed brochure, engaged HRs and local businesses for Osmoze'22 sponsorship.

### Operations Head | Chess Club IIT BHU

(July'22-July'23)

- Successfully organized the Inter Hostel Chess Championship for **400+** students which spanned 3 weeks.
- Covered major chess events and wrote articles, ran a puzzle of the day series for the club's social media pages.

## Achievements and Activities

<b>Scholastic</b>	• <b>1st</b> Position in Abhipraya'20, a Case Study competition organized by SSC IIT BHU. • <b>Qualified for Round 2</b> , got 87th position in the hackathon - Cascade Cup'22 (IIT Guwahati). • <b>AIR 63</b> in Narayana Talent Search Exam, 2018. • <b>Specialist</b> on Codeforces (Peak Rating - <b>1456</b> )   <b>Competitions Contributor</b> on Kaggle.
<b>Extra - Curricular</b>	• Represented IIT BHU in Chess at Spardha'22, Asia's largest sports fest, and secured <b>4th Position</b> . • <b>4th Position</b> in HDCA Chess Tournament and achieved a <b>FIDE</b> Rating of <b>1228</b> . • <b>3rd Position</b> in Environmental Quiz hosted by Quiz Club, IIT BHU.

## Relevant Courses and Technical Skills

- **Programming Languages** – Python(Advanced), C++ (Intermediate), SQL(Advanced), Java(Novice)
- **Frameworks and Tools** – Linux, EC2, Pandas, Scikit, Beautiful Soup, Git, Tableau, Pytorch, Tensorflow, MS-Excel
- **Courses** – Data Structures and Algorithms, Machine Learning, Summer Analytics IIT Guwahati, Deep Learning