

Sukhjeevan Bansal

Senior Year Undergraduate
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EDUCATION

IIT KANPUR

BTECH IN MECHANICAL
ENGINEERING
2016-2020 | CGPA: 9.0/10.0

D.N. MODEL SR. SEC. SCHOOL

INTERMEDIATE
2016 | 91.8%

HIGH SCHOOL

2014 | 10.0/10.0

COURSEWORK

COMPUTER SCIENCE

Introduction to Machine Learning
Principles of Database Systems
Data Structures and Algorithms
Fundamentals of Computing
Neural Networks and Deep Learning
Convolutional Neural Networks
Sequence Models

MATHEMATICS

Partial Differential Equations
Linear Algebra
Real Analysis and Calculus

SKILLS

PROGRAMMING

C++ • Python • Java • HTML • CSS • SQL

UTILITIES

Robo3T • Git • MongoDB • Jupyter
MATLAB • GNU Octave • LaTeX

LINKS

Homepage: @sukhjivn
GitHub: @sukhjivn
LinkedIn: @sukhjeevan-bansal

EXTRA-CURRICULAR

ACTIVITIES

SPORTS

- Team Captain in Chess at state level and stood 1st in the district 4 times.
- Participated in Sprint, Relay Race and long jump events in Athletics in Inferno, 2016.

TECHNICAL

- Led a team of 5 in Descon event in Takneek, 2016.

ACADEMIC ACHIEVEMENTS

- Conferred with **Academic Excellence Award**, IIT Kanpur for the year 2018.
- Selected for **Summer Undergraduate Research Grant for Excellence (SURGE)**, IIT Kanpur, given to 150 students all over India in the year 2018.

EXPERIENCE

HSBC GLOBAL MARKETS | INTERN

May 2019 - July 2019 | Bangalore

VAR PREDICTION

- Analysed the effect of different factors (e.g. free float amount, volatility etc.) on VaR (Value at Risk) and predict it using **machine learning**.
- Employed **Gradient boosting on Decision Trees** algorithm for classification.

DATABASE DESIGNING

- Implemented **MongoDB** database for Stress Testing Model using pymongo library.
- Found 3 ways of storing Time Series Data and implemented 18 queries on it.

SURGE | RESEARCH INTERN

May 2018 - July 2018 | IIT Kanpur

- Studied dynamics of ellipsoidal objects and derived governing equations of motion.
- Numerically solved the derived equations in MATLAB to analyze its motion.

PROJECTS

BANKING MANAGEMENT DATABASE SYSTEM | Prof. Arnab Bhattacharya | Jan'19 - Apr'19

- Designed a Banking Management System Platform in **MEAN** software stack.
- Implemented Authentication and Role-based access control.
- Added functionalities for managing transactions and different types of accounts.

CAPTCHA BREAKING | Prof. Purshottam Kar | Jul'19 - Nov'19

- Used **OpenCV** tools and functions for pre-processing captchas using pixel manipulation to filter out text from noisy background.
- Built a character classifier using a **CNN** for individual identification of letters.

TRIGGER WORD DETECTION | Sequence Models | April'20 - May'20

- Built a Trigger Word Detection model by training a GRU in Keras on synthesized training data making a 'chiming' sound whenever the word 'Activate' is heard.

ARTIFICIAL INTELLIGENCE GAME | Programming Club | May'17 - Jul'17

- Developed a **Battleship game** in python and added visuals using pygame.
- Designed the AI algorithm using probabilities for selecting the best possible move.

OBJECT DETECTION FOR AUTONOMOUS DRIVING | Convolutional Neural Networks | April'20 - May'20

- Built an Object Detection model detecting 80 classes using **YOLO** algorithm.

POSITIONS OF RESPONSIBILITY

ACADEMIC MENTOR | Counselling Service | May'17 - Apr'18

- Provided academic assistance to students struggling with MTH 101/102 course.

STUDENTS' GUIDE | Counselling Service | May'17 - Apr'18

- Guided 6 freshmen personally to get acclimated to the new college environment.